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THE WILSON BULLETIN

A Quarterly Magazine Devoted to the Study
of Birds in the Field
and the Official Organ of the

WILSON ORNITHOLOGICAL CLUB

Edited by
T. C. Stephens, *Editor-in-Chief*
Myron H. Swenk William I. Lyon
Gordon Wilson Walter W. Bennett

Volume XXXIX
1927

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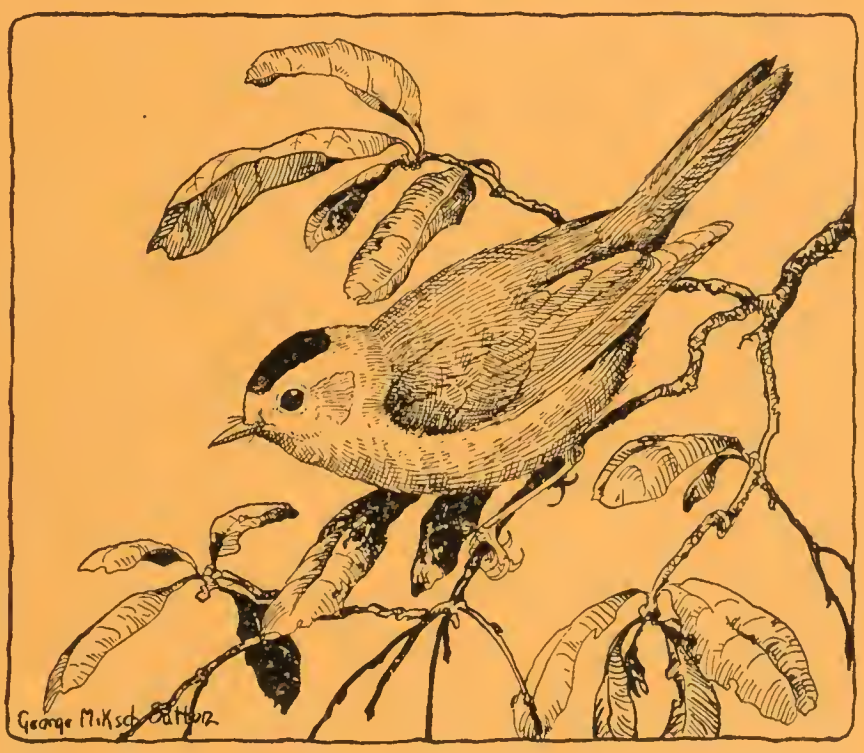

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THE WILSON ORNITHOLOGICAL CLUB

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The officers for the current year are:
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A Young American Bittern, not a Pterodactyl

Kingbird Shading Her Young

Photographs by Alvin R. Cahn.

THE WILSON BULLETIN

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THE MENTALITY OF THE CROW

BY WILLIAM BREWSTER TABER, JR.

That the Crow is wise is the general consensus of opinion, and the usual belief is that it is very wise indeed. It is even credited with mental processes comparable to those of an intelligent human being. Recently in the *Atlantic Monthly* there appeared an article which illustrates what an exalted opinion of the Crow's intelligence is sometimes held by serious-minded people. It reads as follows, "A colony of rooks, perhaps the most intelligent of the crow tribe, was recently observed sitting in solemn conclave, like the Church authorities round the Jackdaw of Rheims, about the person of one of their numbers. Their notes rose and fell with that harsh variation that always suggests conversation and debate. It continued for a while, when the assembled judges and juries suddenly fell upon a delinquent and put him to death. Why he was killed, what incident had preceded, the observer did not know; but of the deliberate killing, preceded by a period of debate, there seemed to be no doubt. Quite certainly rooks are as capable of communal action as the hive bees, but it proceeds from a motive power that is less instinctive, that is more reasonable. The rooks condemned a citizen to death in the straighforward human meaning of the phrase.

That crows converse is a generally accepted notion. Even so eminent an authority as Chapman writes, "No one who has listened to Crows will doubt that they have a language. But who can translate it?" Such opinions of the Crows' mental ability brought to mind the question whether they should be considered as reasoning and thinking animals, conversing in a manner similar to human beings, or as creatures like our other birds, subject to the all-powerful influence of instinct.

Although my attempts to trap Crows met with only partial success, their actions disclosed much concerning their mental processes. Experienced bird banders have learned to take advantage of the instincts, which psychologists have divided into three main groups, namely, self preservation, reproduction, and the herd instinct. When possible,

conditions about traps are so arranged that two or all of these instincts are played upon. For instance, suitable food or water placed under attractive conditions appeals to the self-preservation instinct. Likewise, during the gregarious season call birds appeal to the herd instinct. When the pull of these two instincts is combined, captures are practically certain to result. But let a Sparrow Hawk appear on the scene, then if the birds are small, self preservation opposes the herd instinct and no captures are possible until the fierce falcon has gone.

What then should be the procedure? Would it be necessary to disguise or hide the traps so they could not be recognized as such, and in case captures were made would it be necessary to empty the traps only after dark for fear lest some Crow would establish the connection between trap and man, and communicate it to others? Or would it be best to disregard the supposed super-bird mental qualities with which they are credited, and play upon their instincts?

For several weeks all attempts at trapping were futile. Snares, steel traps, several varieties of traps, large and small, built of wooden frames covered with poultry netting proved useless. Even the humorous adventures of Max and Moritz were called to mind, and an attempt was made with pieces of meat tied to strings in the hope that they would be swallowed string and all, and the birds thus secured. But it was of no use.

Finally a single Crow was caught. It was done with a simple drop trap eight feet long by four feet wide, the sides and ends made of 1x4-inch lumber, and the top covered with 2-inch poultry netting. No attempt was made to disguise or hide it. It was set vertically on its side and pulled over by a wire extending to a distant blind. The bait was a rabbit carcass and a few eggs, while a hog carcass was placed a short distance away as a general attraction. As it was February, the gregarious season, this Crow was placed in a large cage immediately behind the trap and used as a call bird. It proved to be effective for two days later another one was caught, and then others at frequent intervals. These first Crows were kept as call birds, and it was found that the more of them the greater was their attraction.

As soon as a bird was caught it was immediately removed from the trap regardless of how many others were present to witness. As a rule the witnesses were numerous, for upon the fall of the trap those feeding on the nearby hog carcass would rise into the air and set up a clamorous cawing, which attracted many others. Frequently before the trap could be reached a hundred or more would have gathered circling low over my head raising a great din and uproar. Could it

then be supposed that those witnessing this scene communicated the danger of this trap to others? Did they even realize the connection between the trap and man? Not possibly, for the catches continued, sometimes as many as four in a single day, accompanied by the same excitement, the same uproar, and the same gathering of distant crows who witnessed the removal of the captured one.

Still another incident helped to show that the Crow's mentality is not much higher than that of other birds. To realize the pertinence of this statement the effect of the falling trap upon the crow must be described. Crows are very suspicious and alert, and extremely quick to take wing. To catch them with this trap it must be pulled over with great force, or else by a quick leap backward and a single flap of the wings the Crow will escape. In every case the Crow was actually in the air when it was struck by the wire of the falling trap and knocked to the ground. This must have been a very terrifying experience. Yet one repeated. This Crow, 223674, was captured February 24, and held as a call bird until March 23, when it was released. It repeated on March 26, and again a few hours later the same day. On March 28 it was caught again. This conduct is typical of other birds, and like other birds, Crows must have very short memories for terrifying experiences.

If then Crows' behavior about traps indicates that their mental processes are very similar to those of other birds, how is it that they have survived man's persecution for a hundred years or more, and with apparently undiminished numbers? From observation of their approach to the bait, it is evident that their survival is due to fear, which results in extreme caution. It is common for an individual to take many minutes to traverse the last two or three feet of its approach to a perfectly harmless, very dead carcass; and this after a thorough inspection from the air, a nearby fence post, or a safe distance on the ground. Even then sometimes their fear overcomes their hunger and the bird flies away. They have learned to examine all food with great suspicion and to shun man as a dangerous enemy.

Have they a language? Yes, a language of action, as with other birds. Just as a mariner entering an uncharted harbor watches the course of other vessels and from their actions knows the windings of the channel and where lies the treacherous shoal, so the Crow watches his fellows and from their actions knows where there is some hidden danger. When two or three have found it safe to feed upon a carcass, others which have been watching to see the results of their boldness show a marked degree of less caution, some individuals even alighting

on the food directly from the air. Whenever a number are gathered in close proximity upon the ground their black backs cry the message to the wide heavens for all that fly to see, "here is food and safety." Crow and Vulture read the sign alike.

Are Crows conscious that their actions are carrying messages to their fellows? I doubt it. Just as an excited crowd of human beings unconsciously attracts others from as far as it can be seen or heard, so the crowd of noisy Crows circling over my head attracted others to the scene.

It is fully realized that behavior about a trap does not by any means tell the whole story of a bird's mind. But still the lessons that can be thus learned have much value in judging their mental ability.

Kansas, Illinois.

HIGHWAY MORTALITY AND SPEED OF FLIGHT

BY LYNDS JONES.

The writer has crossed the United States in automobiles, from Oberlin, Ohio, to the Pacific coast, nine times from east to west and eight times from west to east. The total mileage is above 60,000. The states traversed include all of those touching the Mississippi River and west of it, except Oklahoma and Kentucky; and of the states east of the river the following were crossed: Ohio, Indiana, Pennsylvania, Delaware, Maryland, District of Columbia, Virginia, North and South Carolina, Georgia and Florida. All but one of the trips have been class trips with a party of students, with from two to six cars, four persons to the car. The one exception was a trip west in the autumn and east in the spring with one car and two passengers, in 1925-26.

Among the studies undertaken on these trips was the counting of the dead animals noted on the roads, particularly the birds, and the speed of flight of such birds as flew parallel to our line of travel. Someone in the first car and someone in the last car was delegated to make the counts of the victims, but everybody was expected to note the flight.

All victims were recorded, whether or not determinations of the species could be made. Of course, when the species was known the name was recorded. Impressions of the numbers seen without making actual counts were compared with the actual numbers, and the impressions were invariably too high.

The first trip was made in the summer of 1919, beginning in late June, continuing through all of July and August, and into the first week of September. The route was across northern Indiana, central

Illinois, Iowa and Nebraska, across Wyoming to Yellowstone Park, Idaho, northern Oregon and western Washington, and home through the northern tier of states to Wisconsin. In that year paved roads were the exception, and there were many miles of barely improved roads. Therefore the speed of travel was much slower than it is now. Dead birds in the road were relatively few, but the numbers of rodents and snakes, particularly from Nebraska westward and northward, were more numerous than we found them on the last trip. Dogs and chickens were more numerous then, cats fewer than now. As pavements have increased and the speed of travel has accelerated there has been a change in the kinds of victims found on the road, as well as in the numbers. In the drier parts of the country the jack rabbits still lead in numbers. In the prairie sections the ground squirrels lead in numbers. Among the birds the English Sparrow comes first with 57 in 1926, the Red-headed Woodpeckers second with 31. The next was Bronzed Grackle, six; then Flicker and Kingbird, five each; four each of Robin and Dickcissel, three each of Sharp-tailed Grouse, Western Meadowlark, Crow, Western Crow, Black-billed Magpie, Raven, Song Sparrow; there were two each Prairie Horned Lark, Desert Horned Lark, Northwest Crow, Vesper Sparrow, Brown Thrasher; one each of California Gull, Turkey Vulture, Swainson's Hawk, Mourning Dove, Bob-white, Nighthawk, Yellow-billed Cuckoo, Texas Woodpecker, Arizona Woodpecker, Red-shafted Flicker, Arkansas Flycatcher, Red-winged Blackbird, White-necked Raven, Western Vesper Sparrow, Field Sparrow, Grasshopper Sparrow, Pale Goldfinch, Lark Bunting, Migrant Shrike, Curve-billed Thrasher, Western Mockingbird, Western Robin, Bluebird, Mountain Bluebird. It is likely that the Swainson's Hawk and the Prairie Falcons were not killed by cars, but that somebody shot them and brought them to the road. Certain tourists have that habit. This was the 1926 count of birds, over an 11,000 mile trip, that included the southwestern and southern states in the return.

A trip made from September 17 to October 23, 1925, with one car and two people, but over the same route as that of 1926, yielded 15 English Sparrows, one Crow, one Florida Gallinule, one Pheasant, one Magpie, one Swainson's Hawk, and three Sparrow Hawks. There were also four skunks, one rat, one mouse, four squirrels, one spermophile, twenty jack rabbits, one dog, one cat, one horse, three snakes, seven turtles, one frog, fifteen chickens. But this was but 3,500 miles and ended at San Francisco.

The question is "Does the automobile materially help in reducing the numbers of our native birds?" The 1926 trip was typical of the series, and probably represented a fair average. In 11,000 miles there were 106 native birds found on the roads traversed. Of these one was a Swainson's Hawk and three were Prairie Falcons, which were probably not killed by automobiles. If 106 represents the daily average for the entire year of 365 days we would have 38,690 native birds killed by automobiles during a year. These distributed over 11,000 miles make approximately three birds per mile. But some of the victims were certainly not killed on the day that we saw them, since they were flattened out by the passage of many wheels, and dry. And of the 106 there were 31 Red-headed Woodpeckers, leaving 25,911 native birds, not counting the woodpeckers and hawks, or slightly more than two per mile. And we need to remember that many of these birds would probably have been killed by some other agency if the automobile had not reached them first. In the light of these findings it seems to me clear that the automobile is not a menace to our native birds. although it is just one more agent of destruction. But for the most part the birds that do get under the wheels belong to the more common species that are not in any danger of becoming extinct.

As to the speed of flight of birds. In only one instance did I feel sure that the observed flight was normal. That was a flock of twelve gulls that we paced as they flew along the beach of the Pacific Ocean where the road parallels the beach south of San Louis Obispo. We paced them for over half an hour, and found that they were going about 30 miles an hour. All other instances had an element of uncertainty in that one could not be sure that the flying bird was not disturbed by the proximity of the speeding car. One might say that the birds that fly parallel to the automobile along the average road fly at a speed between 25 and 35 miles an hour, with the average below 30. The swallows undoubtedly fly faster, and the Mourning Dove often does. We followed a Long-billed Curlew, that had jumped up in the road ahead of us, at 35 miles an hour for more than half a mile, but three times, going at that speed, he tried to light in the road ahead of the car. How fast could he have gone? Horned Larks, longspurs and Vesper Sparrows do the same, sometimes.

Oberlin College, Oberlin, Ohio.

FEATHERED VICTIMS OF THE AUTOMOBILE

BY CHAS. J. SPIKER.

During the year 1926, the writer covered over 3,500 miles by bicycle within the state of Iowa. Let me say at the outset that there is no better means to an ornithological end than a bicycle, provided one is willing to "work his passage." Of course, one must not be in a hurry, but the greater charm of a birding expedition by wheel is in being able to browse along by the wayside, stopping easily for a closer inspection of something that catches the eye, and pushing the steed up a hill that defies both leg and lung power. But even the last has its compensations, for I have found few hills that did not have two sides, and the coast down the decline, with the breezes sweeping by one's ears, is an exhiliration not to be found in any other way.

Perhaps 3,500 miles may look a bit unreasonable to the average reader, but if you take the trouble to place a map of Iowa before you as you read this article, I shall outline the itineraries of the various trips I made during the year.

During the spring vacation, when I was a student at Morningside College, Sioux City, I spent the first five days of April pedalling, covering about three hundred miles and visiting the following cities: Ida Grove, Jefferson, Anita, Atlantic, Harlan, Denison, returning to Sioux City.

On June 11 I commenced a tour which took me along the outside tier of counties on three sides of the state when I passed through the following cities, by which the trip may be traced on the map: Missouri Valley, Sidney, Clarinda, Mt. Ayr, Leon, Keosauqua, Keokuk, Burlington, Muscatine, Davenport, Maquoketa, Dubuque, McGregor, Waukon, Cresco, finishing at New Hampton, where I spent part of the summer. The month of August was spent in Winthrop, about seventy-five miles southeast of New Hampton, and the trip to and from that point was made by wheel.

I was to take up my teaching at Ashton on the first Monday in September, and on August 28 I set out for that place, stopping at a number of places enroute. The trip covered about two hundred miles and carried me through the following towns: Waverly, Iowa Falls, Blairsburg, thence north through Garner to Forest City, west through Estherville, Spirit Lake and Sibley, to Ashton.

The trips here described do not, of course, account for the whole of the 3500 miles. During the spring and fall months, while in school, I rode on the average of fifty miles per week; and practically all week-ends, when the weather permitted, were spent in the field.

It was not until June 11, however, when I commenced the around-the-state journey, that it occurred to me to keep a record of the birds found dead in the road. From June 11 until the first of the present year the dead birds which I found in the road, and which I think it reasonably safe to say were killed by automobiles, number twenty-eight species and 277 individuals. In keeping such a list, I noted the kind of road on which the carcasses were found, whether dirt, graveled, or paved; the county in which found, the date, and whether the birds were immature or adult. Perhaps the best way to give a summarized report is by means of the following table:

	Road			Age		
Species	Dirt	Gravel	Paved	Adult	Imm.	Total
King Rail	....	....	1	....	1	1
Carolina Rail	....	3	....	3	....	3
Killdeer	1	....	....	....	1	1
Prairie Chicken	....	1	....	1	....	1
Hungarian Partridge	....	1	....	1	....	1
Ring-necked Pheasant	....	10	2	12	....	12
Mourning Dove	1	1	....	2	....	2
Screech Owl	1	13	2	16	....	16
Red-headed Woodpecker	4	21	13	36	2	38
Flicker	2	9	3	14	....	15
Kingbird	....	2	....	2	....	2
Meadowlark	1	2	....	3	....	3
Bobolink	1	....	....	1	....	1
Red-winged Blackbird	1	....	2	3	....	3
Bronzed Grackle	1	1	....	2	....	2
Blue Jay	....	2	....	2	....	2
Crow	....	3	....	3	....	3
Prairie Horned Lark	....	1	....	1	....	1
Goldfinch	1	1	....	2	....	2
English Sparrow	48	62	44	154	....	154
Dickcissel	1	....	1	2	....	2
Migrant Shrike	2	....	....	1	1	2
Barn Swallow	....	2	....	2	....	2
American Pipit	1	....	....	1	....	1
Brown Thrasher	2	....	....	2	....	2
Catbird	1	....	....	1	....	1
Chickadee	1	....	....	1	....	1
Robin	2	1	1	3	1	4
Totals	72	136	69	271	6	277

The fact that the greatest number were found on gravelled roads does not mean that more birds are killed on gravelled roads; but most of the mileage covered was on gravel, while the least was on paved roads.

I was much surprised at the end of the year's riding to find the list embracing so many different species, but I did not find them all, for I have since learned of others still that have been found. It will be interesting to continue these findings over a period of years for the sake of comparison.

Ashton, Iowa.

TABULATING THE FEEDING OF NESTLINGS

BY A. E. SHIRLING

We had a class of forty young teachers studying ornithology in Estes Park, Colorado, June-July. In the altitude of the Park (7,500 feet) this was the height of the nesting season.

Conditions of environment were favorable, the members of the class were "peppy", and ever on the alert for something new to do. The territory around Camp Olympus was divided into five districts, the class was divided into five groups and by a system of rotation each district was canvassed ten times, or twice by each group, for birds' nests. The groups competed to see which could find the greater number of nests. Many nests were found, but the story of these findings makes a story in itself. This story is to be about the feeding of fledglings, their appetites and the industry of their parents.

Near the top of the trunk of a partly dead yellow pine there were four cavities excavated by woodpeckers. One was occupied by a family of Red-shafted Flickers, another, about four feet lower down, was the home of a family of Red-naped Sapsuckers, in another a pair of Violet-green Swallows had gone to housekeeping, and the other was unoccupied. Near by, in the stub of an old dead tree, a pair of Western House Wrens were raising their brood. All these nests were plainly visible at the same time to an observer.

It was suggested that the class watch these nests for an entire day and tabulate the feeding visits of the parents to the young in the nest. This could be done with three of the nests only, as the Violet-green Swallows had not yet hatched.

"Sure," the members of the class were ready, "let's do it tomorrow."

They worked in relays, two at a time, watching for an hour. One held the watch, the other a pad and pencil. Every time a bird visited the nest to feed the young, the time was recorded. The first relay was waiting and watching at four o'clock A. M. for the first sight of activity.

The Red-naped Sapsucker left the nest at 4:17 A. M., and the Red-shafted Flicker at 4:39. The Red-nape returned with food eight minutes later but the Flicker did not begin to feed her young until 5:15. The House Wren was a close second to the Sapsucker and gave the first morsel to her babies at 4:26.

The Red-naped Sapsucker was also the last to feed the young in the evening, visiting the nest at 7:51. The Flicker went to the nest and entered without leaving at 7:49. The House Wren left the nest and

did not return at 7:44. It was quite dusk at this time of day, (July 7).

During the interval of these first and last feedings, over fifteen hours apart, the House Wrens fed their young most frequently, visiting the nest 373 times. The Red-naped Sapsucker fed 238 times, and the Red-shafted Flicker 43 times.

Summary of Records on Feeding of Nesting Birds, Camp Olympus, Estes Park, Colorado, July 7, 1925, and August 3, 1925:

Time Hour	Number of feeding visits to to the nest.				
	Red-naped Sapsucker	Red-shafted Flicker	Western House Wren	Violet-green Swallow	Chestnut-backed Bluebird
4-5 A. M.	16	0	12	0	6
5-6	16	3	26	12	25
6-7	18	3	39	31	15
7-8	17	3	41	31	26
8-9	8	3	21	23	15
9-10	18	4	22	20	17
10-11	20	2	20	19	28
11-12	11	3	18	17	16
12-1 P. M.	13	2	16	22	24
1-2	14	1	24	14	26
2-3	16	2	11	9	17
3-4	17	4	24	12	29
4-5	10	2	15	17	21
5-6	17	3	38	14	19
6-7	15	3	36	17	33
7-7:30	12	5	10	2	6
Total	238	43	373	260	323

The difference in the feeding visits of the Flicker and of the Sapsucker was interesting. It did not take long for the watchers to see the reason for this difference. The Sapsucker carried its food in its bill. The wings and bodies of insects could be seen between its mandibles with the aid of glasses. On the other hand the Flicker came with a whole crop full of delicacies and in feeding put its bill far down the throat of the little ones and then pumped up the food, first down one throat and then another, feeding several birds at one visit. The young were far enough along in their development to stick their heads out of the entrance hole and the regurgitating process could be well observed.

At each nest the male and female birds seemed to share equally the responsibility of feeding.

The feeding was fairly evenly distributed during the day. The average interval for the House Wren was about two and one-half minutes apart, and for the Flicker twenty minutes. The Sapsucker fed the greater number of times between 10 and 11 A. M. (20 times), the Flicker between 7 and 8 P. M. (5 times), and the House Wren between 5 and 6 P. M. (38 times).

The exact age of the young birds was not known, but in each case they were well developed and left the nest a few days later.

On August third a similar tabulation was made on the feeding of a brood of Violet-green Swallows and of Chestnut-backed Bluebirds that were about two feet apart in woodpecker cavities in another pine tree. The Bluebirds visited the nest 323 times during the day, and the Violet-green Swallows 260. This, however, was hardly a fair comparison, as the swallows began to leave the nest during the day, and by night three had gone, hence part of the feeding could not be recorded.

Between the hours of 6 and 7 P. M., the Bluebirds visited the nest to feed the young thirty-three times. The swallows did not begin feeding until nearly an hour later than the Bluebirds.

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THREE INTERESTING BREEDING RECORDS FOR 1925 FROM THE PIEDMONT REGION OF NORTHEASTERN GEORGIA

BY THOS. D. BURLEIGH

From the standpoint of topography and soil, and even climate, Georgia has been divided into three sections which are all readily separated one from the other, and which are distinct enough that their characteristics are apparent to the most casual observer. One, the Coastal Plain, covers, roughly speaking, the southern half of the state; the second, the Piedmont Plateau, comprises the larger part of the remainder of the state, the third section, the Mountain Region, being limited to the northern tier of counties and rather small in area when taken into consideration the state as a whole. It was in the northeastern corner of this Piedmont region, about Athens, the county seat of Clarke County, that these notes were taken, the breeding records, all of them, pertaining to this past spring, 1925. To those unfamiliar with this Piedmont region it might be said briefly that it is characterized by being rather hilly, a transition as it were from the mountains to the level coastal plain, and with a red clay soil the more evident be-

cause of the cotton fields that very largely take the place of pastures, and also grain crops such as wheat and rye, farther north.

STARLING. *Sturnus vulgaris.* As early as the fall of 1917 this species was reported from Savannah, Georgia, (See Department Circular 336, U. S. Department of Agriculture, "Spread of the European Starling in North America"), but it was not until March 7, 1924, that I first recorded it at Athens. On that date five birds were seen feeding at the edge of an open field, and that there might be no question as to my identification one was collected after they had flown into the top of a nearby shortleaf pine. Whether this unduly warm reception was the cause I am not sure but these birds were not seen again, and almost a year elapsed before I recorded this species for the second time. On January 20, 1925, a flock in which there were fully sixty birds was seen feeding in the top of a large sweet gum at the edge of the Sandy Creek "bottoms." They were wary and hard to approach, and also rather restless, circling over the open fields either in one compact flock or in several small groups, their soaring flight being at this time easily noticeable. At dusk they were seen going to roost in a large stretch of cattails, wheeling above it for some time before finally dropping down out of sight, and as I watched them I felt that it was an auspicious omen in so far as their lingering here and breeding was concerned. In the next few months scattered birds were seen at irregular intervals, but they were few and far between, and the possibility of a pair actually nesting at Athens seemed doubtful. On April 23, however, one bird, a male, was seen in the dead top of a large white oak, singing, and as there were several promising looking cavities in this tree I felt that perhaps after all my optimism would be justified. I lacked the opportunity that day of investigating more fully, and when I returned three days later, on the 26th, both birds were in the top of the tree, so it was the 28th before I attempted to settle the issue. The absence of the female that day aroused the hope that she was perhaps incubating, and that proved to be the case. The holes first noticed turned out to be empty, but climbing the tree had made the bird uneasy and she finally flew from another cavity that had not been seen until she revealed its presence. It was an old Red-headed Woodpecker's nest, in a dead limb in the top of the tree sixty-five feet from the ground, and was inconspicuous enough to be easily passed by unnoticed. The cavity itself was fully a foot deep, and was well filled with a rather bulky nest of weed stems, coarse grasses, and dry loblolly pine needles. There were four fresh eggs in the nest, and as it was noon, and a reasonably warm day, the fact that the female was incu-

bating then made me feel that no more would have been laid. The tree stood well out in the open, at the upper end of the reservoir that supplies the city with water, and a hundred yards from a short stretch of pine woods, with cotton fields the predominating feature of the landscape. No other birds were seen during the spring but unquestionably young were successfully reared close about Athens for on August 1 a flock of eighteen of these birds was noted feeding about several cows at the edge of an open field; and, on September 6, a flock of fully a hundred was observed in the top of a tree at the side of a road. Since that date small flocks, usually averaging from five to fifteen birds, have been seen almost daily, and there is little doubt but that this species is now well established here as a common breeding bird. My one breeding record is the first for the state, and probably the farthest south that this species has nested so far, but this coming spring should see much of the Piedmont region well south of Athens invaded in perceptible numbers.

Nesting site of the Dickeissel (at x) in Clarke County, Georgia, 1925. Arrows point to singing trees

Nesting site of the Starling in Clarke County, Georgia, 1925. Arrow points to nest cavity.

Grasshopper Sparrow. *Ammodramus savannarum australis.* The cotton fields with their scanty growth of grass offer few inducements to such a species as the Grasshopper Sparrow, and probably largely because of this lack of suitable nesting sites these birds are rather scarce here. It is true that this is practically the southern limit of their breeding range, but locally, in spots meeting their few requirements, they are fairly plentiful, and in time, with sufficient encouragement, they may become one of the common breeding birds of this part of the state. For several years now the Georgia State College of Agriculture has urged the planting of alfalfa as an aid to the growth of the live stock industry throughout the state, and to prove its value to the average farmer has devoted considerable acreage to the cultivation of this legume. Here, as well as in several adjoining fields used for

grazing cattle, these birds are, during the summer months, actually plentiful. Undoubtedly the introduction of the alfalfa is the cause of this comparative abundance of a species rarely seen elsewhere in the county, and as this plant is gradually gaining favor with the farmers throughout the state the result will be watched with interest. On June 13 I was crossing one of these fields when a bird flushed from almost under my feet and a short search revealed the nest holding two eggs incubated possibly three or four days. This number may seem rather small, and it may occur to others, as it did to me for the moment, that disaster had overtaken one or more of the eggs; but the probability is that that is the normal number for a second brood. Other years young fully fledged and out of the nest for some time have been seen the last of May so there is little question but that this was a second set, and as is generally known fewer eggs are laid by the average bird here in the south than is the case farther north. The nest was sunken flush with the ground and very well concealed in the middle of a thick clump of grass near the edge of the field, and was built of fragments of weed stems and grasses, lined with fine grasses and a little horse hair, and well arched over. The bird showed great concern when flushed, fluttering through the grass close by and chipping incessantly. This is, to the best of my knowledge, the first definite breeding record for the state.

Dickcissel. *Spiza americana.* It is doubtful if this species ever occurred in any numbers anywhere in Georgia, even before its unexpected disappearance from the Atlantic Coast states some years ago. I know of but one published record of its breeding in the state, in 1883, (See Notes on the Summer Birds of Northern Georgia, by Arthur H. Howell, *The Auk*, Vol. XXVI, No. 2, April, 1909), and that is rather indefinite and based seemingly on a pair of birds that were merely seen that one year at Rising Fawn, Georgia. Forty-two years having gone by without any further records for the occurrence of this species in the state, and as during that time it has become extremely rare anywhere east of the Alleghenies, the fact that it nested here this past year is I feel of decided interest. Until this past spring I had seen but one bird, a male on March 4, 1923, and I considered it a very scare migrant, or even but an accidental straggler, about Athens. On April 24, 1925, a male was again seen near the same spot, singing from the top of a small tree at the edge of an open field, and this time it lingered on day after day. A large sycamore stood here at the side of a stream flowing through this field, and gradually its upper branches came to be the one definite place where the bird could be

found throughout the larger part of the day, singing untiringly. Within two weeks a sudden increase occurred in the number of these birds, six being seen on May 6, all males, and well scattered over several fields of oats then ripe but as yet uncut. They were singing incessantly, either on the wing or perched in the top of a tall weed, and judging from appearances were well satisfied with conditions in general. Unfortunately within a few days this grain was cut, and almost at once these birds disappeared, but two males remaining at the spot where the one had been first noted. Possibly a hundred yards from the sycamore, and well toward the center of a field of alfalfa, was a small white oak, and it was in the top of this tree that the second bird chose to spend most of its time. The streams mentioned above flowed through a ditch ten feet in width and six feet deep, the sides being overgrown, rather thickly in spots, with such underbrush as willows and alders. It was the only situation that I considered at all promising if these birds actually nested here, for the surrounding fields were much too open to conceal the nest with any degree of success. For which reason, as the first of June approached and both birds still sang each day, and all day, from their favorite trees, this ditch was closely watched and a nest finally found that, on May 29, held four fresh eggs. It was two and a half feet from the ground and very well concealed in a thick vine growing on the side of the ditch, and was somewhat bulky but compactly built of weed stems, grasses, and fragments of dead leaves, well lined with fine rootlets and a few black horse hairs. When found, during the middle of a very hot afternoon, the female was incubating, but flushed as the vine was touched and, joined by the male who had been singing close by, showed great resentment at my intrusion. The other nest was unquestionably close by but no attempt was made to find it for this one record was sufficient to prove that this species was really breeding here, and I had no desire to discourage these birds too much. What the future holds is of course merely to be guessed at, but I am hoping very much that the Dickcissel may in time be once more a regular summer resident about Athens. Why they should have lingered as these two pairs did this year is difficult to explain satisfactorily, but having succeeded, as I feel confident they did, in rearing a brood here it is easily possible that the venture may be undertaken again in the years to come.

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ON THE ALDER FLYCATCHER (*Empidonax trailli alnorum*)

BY P. B. PEABODY

The paper by Mr. S. E. Perkins III in a recent issue of the WILSON BULLETIN (XXXVIII, March, 1926, pp. 43-44), has proved, with me, of peculiar interest. In widely sundered regions have I studied both the Traill-Alder and the Acadian Flycatchers with rare delight. If I presume to question Mr. Perkins' identification, it is because the details so carefully and accurately given present a rather decided mal-diagnosis. The main associational condition is widely remote from any elsewhere imputed to the Acadian Flycatcher. This species is, preeminently, a bird of the uplands; while the lowland associations are, in the main, persistently sought by Alder and Traill's Flycatchers. In Kansas, however, with Traill's Flycatcher (habitance proven by P. B. P., auct., H. C. Oberholser) the reverse seems mainly true, the nestings being in osage hedges. But I have never heard before of a lowland nesting imputed to *Empidonax virescens*, of whose nest Coues (Key to N. A. Birds, 5th ed.) has said: ". . . . in *trees*, low or at no great elevation, semi-pensile in horizontal fork of a slender bough. . . ." (P. 528). Of *alnorum* the same author has written thus: ". . . . especially common in low wet places along the alders, willows . . . . in which its nest is placed, as a rule in an upright crotch of two or more twigs." (P. 529). As to the nests of these greatly differing species, Coues also says (op. cit.): Of the Acadian, ". . . . thin and open-worked shallow, flat, saucer-shaped. . . . ." (P. 528). *Per contra*, of *alnorum*, ". . . . thick-walled, deeply cupped, more or less compact, sometimes quite slovenly, like an Indigo-bird's, and in any case quite different from the frail flat saucer of *virescens*." (P. 529). As to this fundamental difference in the nest-structure of these two contrastive flycatchers, it may be apropos to state that, in Kansas, as also in California, the nests of the Traill's Flycatcher are distinctly more thick-walled, more heavily and softly felted, than the nests of the Alder Flycatchers of Wisconsin and Minnesota. This difference I find to be apparently fixed: and it is well to bear this in mind. But far more diagnostic, perhaps, than either environ or structure of nest are the "manners" and the call-notes and songs of these flycatchers. In my thirty years of migration-reporting for the Biological Survey I have learned to place far greater stress upon *audience* than upon *vision* in making positive differentiations. And it is just here that I, the more confidently, believe Mr. Perkins to have been mistaken in his identification.

The Acadian Flycateher is, pre-eminently, a vivacious, noisy bird; the Traills' Alder Flyeatchers are quite the reverse. And these two are, moreover, decidedly shy and retiring. It therefore seems to me to be highly signifieant that Mr. Perkins' bird ". . . . did not sing; it only fussed." This is the more emphatic because of the faet that if ever a bird either *sings* or *calls*, it is when near the nest, under human espionage. As to sizes, measurements, and eolorations, Mr. Perkins has, unfortunately left mueh to be guessed at. He does not, for instanee, tell us what the dorsal contour plumage of his birds was found to be. Coues has eharaeterized the relative eolors, for these two species, thus: the Aeadian, "olive-*green*," as italieized; and the Alder, "olive-*brown*" (Ref., as above). As for lengths of the birds, and relative lengths of remigial feathers, the differenees are so slight that even a keenly eritical bird-bander might slip in making the due measurements from the living bird. A maximal and minimal margin of .25 ineh quite justifies, does it not? the above *dictum*. Let us hope that if Mr. Perkins should sueeeed in trapping, another season, as he has reeently done, and is likely to do, this same pair of flycatehers, he will be sure to give us the dorsal eoloration. This will be diagnostie. And if he will also transeribe for us the eall-note of his birds, whieh he surely *may*, the matter will thus have beeome happily settled. Nor, if his birds prove to be "olive-*green*" will that faet invalidate my eontentions; but only give us a new psyehological and habital eomplex for his interesting birds. And this will broaden our aeeuraeies of observation and our eertainties of knowledge, whieh is, of course, exaetly what we are seeking.

I have never met the Aeadian Flyeateher personally, and so am quite ignorant of its song; though all of its *nests* that I have seen conform to the Couesian eitations. But I am eritically familiar with both the call-notes and the songs of the Alder Flyeateher; though less so with these utterances in ease of the Traill's Flycatcher as I have observed it in Kansas.

I have just found, in a Field Book imperfeetly indexed, the following valuable note, whieh I quote as it stands:

Blue Rapids, Kansas, June 10, 1908. Traill's Flyeateher: Flies and perches like *Contopus*. Rather silent. Call, "bit"; song, "viz-you": somewhat like *alnorum;* a few colloquial notes like *borealis*. A pair located for nesting in (an osage) hedge. Perhaps, three pairs in the same eighty-rod hedge. Very silent. One song is "R-r-r-ish-beel," with the (initial) R intensely rolled. But the song is feeble. It resembles the "Shay-deel" of *alnorum*, though more deliberate; and is

like the "Vee-bleer" of *borealis*, though of course, far less resonant. No signs of nesting up to July seventh. Two males taken that day were at sex-maximum—were not fat. No signs of nesting, or of incubation, anywhere. Birds very local. No signs of nesting observed, later.

How happily true it is that "*Litera scripta manet.*"

A brief survey of a fairly ecstatic experience of mine with the Alder Flycatcher, last June (1926), in the Devil's Lake Region of North Dakota, will clinch my contentions, most likely; and cannot but prove edifying to the readers of the Wilson Bulletin.

Of course, I have long been familiar with the inspiriting morning-song of the Alder Flycatcher, "Zhay-deel," as heard in the northland; as, also, with the soft, subdued, measured "Pip" which this species incessantly iterates, amid its brushland seclusions. This call, though so soft and so liable to be unheard, was so persistent as heard, the past summer, at a Wisconsin brushland nest in a black-oak sprout, at seven feet—a nest that was marvellously sprawly without, yet wondrously neat within—that I always knew, while reconnoitering in the interests of my Cedar Waxwing colony, just when I might be approaching this nest with its three younglings; from whatsoever direction and at howsoever inappreciable a distance. This note is just "Pip," never "Tip"; and there is positively no other species that has a call quite like it. My acquaintance with the Alder Flycatchers of Benson County, North Dakota, in the opening days of June, 1926, had its staging in a little willow "motte," a sort of "island," in the "Big Coulee," an ancient river-bed of the long, meandering Cheyenne Basin. Here, while resting from my strenuous searches of the boggy depths for nests of the Yellow Rail, I found the Alder Flycatcher enacting what was, for me, an entirely new *role*: While this species is the most solitary of all the flycatchers of the mid-north, without exception, I was surprised to find assembled, in that narrow motte, perhaps three pairs, or more. (There was no spot just like it, anywhere in all that region). It was the nuptial time, of course: and the flycatchers were quite definitely localized. By crouching low and keeping utterly still, I had the joy of an association with this seclusive bird never paralleled, before, in fifty years. I even watched the males chase one another, discreetly, guardedly, as if in constant fear of self-betrayal. And I found myself watching their sundry movements as I had never been able to do before. But my most delightful "find" was in the vocal realm. I have rather doubted if any one else has ever heard, before, what I heard that day. It was a decidedly husky, rather feeble note, somewhat akin to the ridiculous nuptial note, bronchitic and gaspy, of the Nelson's Spar-

row, as heard in the adjacent meadows. The call may be very accurately expressed in a human vocable; (which, by the way, is not often possible with paraphrases of bird-calls and bird-songs). Here, then, you have it: "Wish-beer." This odd call I heard, over and over again; sometimes, at ten-foot distances. I never heard a more characteristic bird sound, nor one which, for all its ridiculous feebleness, yet rests so strongly and so powerfully upon my memory. Shall I ever hear it again, I wonder? Truly, I *may* hope to enjoy that outsounding "Zhay-deel," again, next summer, at the dear old Wisconsin home. But, "Wish-beer"! Anyhow, here's hoping, and *hoping*, that Mr. Perkins and his confreres may hear it, along their tiny cat-tail-willow Indiana swale, the twentieth of next May!

Topeka, Kansas.

SUMMER BIRDS IN THE VICINIITY OF PLUM LAKE, VILAS COUNTY, WISCONSIN*

BY ALVIN R. CAHN, PH. D.

When, on June 26, 1925, Governor Blaine of Wisconsin, signed Assembly Bill No. 351, there came into existence the largest public park in the northern part of Wisconsin, and one of the finest preserves in the middle west. The Northern Forest Park, as this new preserve and game refuge is called, comprises an area of some 92,000 acres of forests, swamps and lakes, approximately 76,000 acres of which are state owned. Upon these state owned lands henceforth there will be no hunting and no trapping, and the wild life which still clings desperately and almost miraculously to these northern Wisconsin forests will have its chance to recuperate from the slaughter to which it has been subjected in the past. In this area the generations that are to come will find, we hope, such wild life as we ourselves have enjoyed—perhaps even more. If those who privately own the land within the boundaries of the new park will co-operate with the state in carrying out the spirit as well as the letter of the law by posting their lands against hunters and trappers, we may rest assured that here the generations of tomorrow will find an abundance of wild life.

The new Northern Forest preserve lies in the very heart of the "land-o'-lakes" region of Vilas County, Wisconsin. It includes fine forest areas of large second growth timber, with scattered areas of virgin white pine not unknown. Luxurious undergrowth, untouched by fire for many years, covers the country and offers shelter and breeding

*Contribution from the Zoological Laboratory of the University of Illinois, No. 293.

grounds to all sorts of native animals. Sphagnum bogs, with their pitcher plants and tamarack borders, lie in the valleys between gently rolling wooded hills. Something over forty lakes of various sizes, belonging mostly to the Manitowish River system, teem with fish and afford an almost endless variety of aquatic and semi-aquatic habitats, where thrives a numerous and interesting biota. Large game still roams the woods; the Virginia deer is still common and there are black bear, timber wolves, coyotes and foxes. The lakes have their muskallunge, bass, pike and pickerel and dozens of species of shore minnows and darters. A single railroad pierces the corner of the preserve and Sayner, on the Chicago, Milwaukee and St. Paul Railroad, is the only town within its limits. It is a land of beauty and endless variety, and it is not surprising that its avifauna should be abundant.

The writer has spent parts of many summers in this particular region of northern Wisconsin simply because of its beauty and the abundance of its wild life. The dates of his visits have hardly ever overlapped each other so that the list of birds of the park herewith offered is a composite of observations that cover the region from the middle of June to early September. Despite the fact that the birds will be protected in the future, changes are bound to occur as the biota tends to stabilize itself and find the normal balance which existing conditions will support. Some species will undoubtedly go; others will come. The list is offered as a record of the species known to the writer to inhabit the park now. What changes will come, future notes by others will tell. The list is presented as the first of a series of contributions dealing with the fauna of the park; if it proves of assistance to others in enjoying the wild life of the region as the writer has enjoyed it, its purpose will be fulfilled.

[The following list contains 107 named forms.—Ed.]

Horned Grebe. *Colymbus auritus.* A breeding species, but not very common. Seen on Nixon, Little Gibson and Razorback Lakes.

Pied-billed Grebe. *Podilymbus podiceps.* Somewhat more common than the preceding species, frequenting the more reedy or ricey lakes, and breeding generally throughout the region.

Loon. *Gavia immer.* Abundant. Found breeding on all of the larger lakes, which, however, seldom harbor more than two pairs. Young are out of the nest by the middle of June, often hatching during the first part of the month. Old muskrat houses are used year after year as breeding loci.

Herring Gull. *Larus argentatus.* A visitor only, appearing most frequently after or during heavy winds, when the birds are swept from their normal haunts about the great lakes.

Common Tern. *Sterna hirundo.* Seen only in the vicinity of Big Muskallunge and Plum Lakes, but in evidence there constantly during the early summer of 1925. There is no evidence of breeding within the region.

Black Tern. *Clidonias nigra surinamensis.* A common breeding species, particularly about lakes with boggy shores or wild rice areas: Nixon Lake, Rice Lake, and suitable areas about the larger bodies of water.

Red-breasted Merganser. *Mergus serrator.* A common breeding species. A pair with eleven young, evidently very recently hatched, was seen constantly on Big Muskallunge Lake after June 17. It is interesting to note that this same brood was seen on two successive days at points over three miles apart in a straight line, with probably over five miles of shoreline intervening. As the birds very rarely appear away from the shallow water when accompanied by newly hatched young, it is still more interesting to note that on the third day they were back where they were first seen. This in spite of the fact that the young were under two weeks of age.

Mallard. *Anas platyrhynchos.* A fairly common breeding species about the less frequented regions. A pair with young were seen on Nixon Lake, another on Rice Lake, and a third in Star Lake bay of Plum Lake. Very abundant during migrations.

Blue-winged Teal. *Querquedula discors.* Fairly common as a breeding species, particularly around wild rice lakes. Several pairs bred near Nixon Lake in 1925. Less common now than formerly.

Wood Duck. *Aix sponsa.* Still an occasional breeder in the less disturbed regions of big timber. Several were seen on Plum and Big Muskallunge Lakes in both 1924 and 1925.

Redhead. *Marila americana.* An uncommon summer resident occasionally found about the larger bodies of water. Said to breed in the region, but I have no data to offer.

American Bittern. *Botaurus lentiginosus.* A common species about the more reedy lakes, breeding where suitable swampy regions are found: Nixon Lake, Rice Lake.

Great Blue Heron. *Ardea herodias herodias.* An abundant breeding species, rapidly on the decline since the Wisconsin laws have placed it on the black list because of its fish-eating habits. One native

of the north woods tells me with pride of shooting over three hundred Great Blue Herons out of one rookery in one day, as the birds were going and coming with food for their young. Surely the state should reward such a hero!

Virginia Rail. *Rallus virginianus.* Not uncommon about the smaller swamp-bordered lakes, but more often heard than seen. Breeds about Nixon, Rice, Johnson Lakes, and other small bodies of water.

Sora. *Porzana carolina.* Seen only once, along Johnson Creek in the northern part of Vilas County, and heard several times about Nixon and Rice Lakes. Probably breeds.

Map showing the lakes within the limits of the new Northern Forest Park, Vilas County, Wisconsin.

Coot. *Fulica americana.* An uncommon breeding species. Seen only on Nixon Lake. Abundant during migrations.

Wilson Snipe. *Gallinago delicata.* An uncommon summer resident, said to be a breeding species. Only seven "Jacks" were seen by the writer in two summers. Decidedly on the decrease.

Least Sandpiper. *Pisobia minutilla.* An uncommon summer resident, seen by the writer only once: July 14, 1925, on Plum Lake.

Spotted Sandpiper. *Actitis macularia.* A fairly common summer resident, seen almost daily, but never in any numbers. It frequents all of the lakes where sandy shores predominate.

Solitary Sandpiper. *Tringa solitaria solitaria.* Five individuals were seen during my stay in 1925, three on Big Muskallunge Lake, and two on Plum Lake.

Killdeer. *Oxyechus vociferus.* Rather uncommon as a summer resident, as there is relatively little breeding ground for the species. Several breed on the golf course at Plum Lake each year, and the young are often seen running about on the course.

Canada Spruce Partridge. *Canachites canadensis canace.* Almost exterminated. A small covey still holds out near Little Johnson Lake, and this is the only flock I saw. The opening of the shooting season on the species will practically wipe the birds out. It is to be hoped that those few birds within the new game preserve will be spared.

Ruffed Grouse. *Bonasa umbellus umbellus.* I was surprised to see so very few partridges in evidence; they are positively scarce, and are doomed to be scarcer still with the opening of the shooting season. A breeding species where found.

Prairie Chicken. *Tympanuchus americanus americanus.* A resident breeding species. Almost unknown within Vilas County ten years ago, the species has increased wonderfully—so wonderfully that the law opens on the species this fall (1925). That spells the doom of the species in the county in general, but some may hold out within the new sanctuary. Let us hope so, at least.

Turkey Vulture. *Cathartes aura septentrionalis.* An uncommon summer resident, seldom seen unless there is a carcass about. Then the birds appear as by magic. I know nothing of their breeding within the region.

Marsh Hawk. *Circus hudsonius.* A common breeding species. Seen most frequently flying low over the swamps or fields in search of food.

Sharp-shinned Hawk. *Accipiter velox.* Unfortunately, rather common. The chief victims of this bird seem to be Myrtle Warblers, Vesper, Song and White-throated Sparrows.

Cooper's Hawk. *Accipiter cooperi.* Not an uncommon breeding species, which, like the above species, does much damage to the smaller song birds. The only White-crowned Sparrow I saw in the region was in the talons of a Coopers' Hawk!

Red-tailed Hawk. *Buteo borealis borealis.* Usually seen or heard high overhead, where the red tail, catching the sunlight, differentiates the species conspicuously. Breeds in the more isolated spots: Big Johnson, Little Gibson Lakes.

Bald Eagle. *Haliaeetus leucocephalus leucocephalus.* A beautiful pair has bred for many years on Razorback Lake. Not infre-

quently seen about Big Muskallunge Lake, where I suspect another pair is breeding.

Sparrow Hawk. *Cerchneis sparverius sparverius.* The most abundant of the smaller hawks, met with almost exclusively in burned over areas or areas of young second growth. Feeds almost exclusively on grasshoppers, meadow and deer mice.

Osprey. *Pandion haliaetus carolinensis.* An abundant breeding species. The nests, in the very tops of dead pine trunks, are features of many landscapes. Seen constantly over the large lakes, where they feed upon almost any species of fish available. A bird was seen over Big Muskallunge Lake carrying a sucker that must have weighed all of two pounds to its nearby nest.

Barred Owl. *Strix varia varia.* The commonest of the large owls, but not often seen unless one frequents the big timber. Breeds near Nixon Lake, where nearly fully developed young have been seen out of the nest early in July.

Screech Owl. *Otus asio asio.* Quite frequently heard during the early evenings about the dwellings, but very difficult to discover during the daytime. It is a common breeding species.

Great Horned Owl. *Bubo virginianus virginianus.* Heard more frequently than seen. It inhabits the less settled regions, and breeds about Little and Big Johnson, Little Gibson, and Rice Lakes.

Black-billed Cuckoo. *Coccyzus erythrophthalmus.* Haunter of the deeper thickets, this bird is seldom seen, but is not at all uncommon if one seeks it. It is not unlikely that the Yellow-billed Cuckoo also occurs, and both species probably breed within the region, but I happen to have no data on the subject.

Kingfisher. *Ceryle alcyon.* A common species wherever there is country suitable for its burrowing nesting habits.

Hairy Woodpecker. *Dryobates villosus villosus.* Seen commonly about the residences, and breeding in the hardwood areas.

Downy Woodpecker. *Dryobates pubescens medianus.* Also common, but less often seen than the Hairy. Found generally in the same associations.

Yellow-bellied Sapsucker. *Sphyrapicus varius varius.* A common breeder throughout the region. The belt-like borings of the species are very much in evidence on both hardwoods and evergreens, and there is evidence of a not inconsiderable damage wrought by the birds.

Northern Pileated Woodpecker. *Phloeotomus pileatus abieticola.* Rare. Found only in the heaviest timber, far away from the ordinary track of tourists. A pair was seen near Little Johnson Lake. Called locally "cock of the woods."

Red-headed Woodpecker. *Melanerpes erythrocephalus.* A common breeding species, seen frequently along the road-sides and about the dwellings; less frequently in the heavy timber.

Northern Flicker. *Colaptes auratus luteus.* Like the preceding, a bird of the road-side timber. Common breeder.

Whip-poor-will. *Antrostomus vociferus vociferus.* Common wherever found, but extremely local in distribution. Around the forest ranger's look-out tower (Camp Two) the birds are abundant.

Nighthawk. *Chordeiles virginianus virginianus.* Common throughout the region, breeding abundantly. The birds are much in evidence at dusk, when they feed on an abundance of gnats, midges, and mosquitoes.

Chimney Swift. *Chaetura pelagica.* Common about the farms and dwellings, where they nest in their accustomed chimneys.

Ruby-throated Hummingbird. *Archilochus colubris.* One female was seen at Forest Home on Plum Lake on June 20; a male and a female on Big Muskallunge Lake August 12. An old nest was found along Rice Creek just above Plum Lake.

Kingbird. *Tyrannus tyrannus.* An abundant and very characteristic bird of the roadsides and more open woods, breeding often near streams.

Crested Flycatcher. *Myiarchus crinitus.* The characteristic voice of this species was heard daily about Forest Home on Plum Lake, but the birds were only seen twice. A breeding species.

Phoebe. *Sayornis phoebe.* Commonly found about the dwellings, where old nests are not infrequently seen. Not often found in the deeper woods.

Pewee. *Myiochanes virens.* A bird of the deeper woods, less often seen about the dwellings. A common breeding species.

Least Flycatcher. *Empidonax minimus.* One of the most characteristic of the smaller species found in the north woods. There was hardly a region visited where the familiar call of the species did not greet me.

Prairie Horned Lark. *Octocoris alpestris praticola.* Seen only on the golf course on Plum Lake, where probably a dozen individuals were found to be very tame.

Blue Jay. *Cyanocitta cristata cristata.* Common throughout the region, but strangely quiet for so garrulous a bird.

Canada Jay. *Perisoreus canadensis canadensis.* Locally common only. Seen only about the Camp Two lookout station, where the birds acted up to their traditional familiarity to perfection.

Raven. *Corvus corax principalis.* A very few ravens are still to be found about Little Johnson Lake; three were seen on August 10 in the heavy timber.

Crow. *Corvus brachyrhynchos brachyrhynchos.* A breeding species, but not nearly as common as I have found them in similar localities in northern Minnesota and Michigan.

Cowbird. *Molothrus ater ater.* A frequenter of the pastures and open fields, abundant where cattle are found.

Red-winged Blackbird. *Agelaius phoeniceus arctolegus.* Locally common, but of very limited distribution. The largest number were seen at the east end of Big Muskallunge Lake, feeding along the rocky shore.

Meadowlark. *Sturnella magna magna.* A bird of the open fields and pastures, never met with away from civilization. Common on the farms and on the Plum Lake golf course.

Bronzed Grackle. *Quiscalus quiscula aeneus.* A common breeding species in the evergreens. The birds begin to flock as soon as the young can fly, after which they visit the cultivated fields—to the annoyance of the farmer.

Purple Finch. *Carpodacus purpureus purpureus.* Not common, but several small flocks were noted in July and August. Abundant as a migrant, particularly so in the spring.

Goldfinch. *Astragalinus tristis tristis.* A common species, found most frequently along the fences in cultivated regions, where they breed.

Pine Siskin. *Spinus pinus.* One small flock was seen in a tamarack swamp near Little Gibson Lake on July 11, 1925, the only record I have.

English Sparrow. *Passer domesticus.* Abundant about the villages and to a much less extent about the isolated dwellings. Entirely absent elsewhere.

Vesper Sparrow. *Pooecetes gramineus gramineus.* A characteristic bird of the roadsides and open fields. Very common, breeding throughout the region.

White-crowned Sparrow. *Zonotrichia leucophrys leucophrys.* Uncommon. The only specimen seen was in the talons of a Cooper's Hawk! Perhaps more abundant than present data indicate.

White-throated Sparrow. *Zonotrichia albicollis.* Common, but much less so than I have found the species in similar regions in northern Minnesota. The song is frequently heard, and the birds breed throughout the area.

Chipping Sparrow. *Spizella passerina passerina.* These little chaps, abundant as they are, seem strangely out of place in the north woods. Yet there they are, in full song, as prosperous as on the well kept city lawns. They breed throughout the area.

Slate-colored Junco. *Junco hyemalis hyemalis.* A common summer resident, seen on several occasions carrying food. They frequent the roadsides, and were never seen in the woods.

Song Sparrow. *Melospiza melodia melodia.* Very common all over the region, seen most frequently about the smaller lakes. Three nests were found in July, 1925, all with nearly fledged young.

Swamp Sparrow. *Melospiza georgiana.* Seen frequently about Little Gibson and Nixon Lakes. Probably a breeding species.

Chewink. *Pipilo erythropthalmus erythropthalmus.* Common throughout the area, breeding usually among the hardwoods near the smaller lakes. Plum, Nixon, Rice, Little Johnson Lakes.

Rose-breasted Grosbeak. *Hedymeles ludovicianus.* Not common anywhere within the reservation. Seen only twice, but heard several times.

Indigo Bunting. *Passerina cyanea.* Like the Vesper Sparrow, a bird of the roadside, most frequently seen sitting on telephone or light wires. Probably breeds, but no data are at hand.

Scarlet Tanager. *Piranga erythromelas.* Rather abundant, and always a joy to see. I have found them all over the region, both near the dwellings and in the deep woods. A nest with newly hatched young was found on July 8, 1925.

Purple Martin. *Progne subis subis.* Abundant wherever inducement in the form of a nesting site if offered. Elsewhere entirely absent.

Barn Swallow. *Hirundo erythrogastra.* Common around the villages; elsewhere rare. A pair nested in 1925 on the boathouse door of Forest Home, Plum Lake.

Tree Swallow. *Iridoprocne bicolor.* Common around the smaller swampy lakes, where the birds nest in hollows in dead tree trunks; absent from the vicinity of villages.

Bank Swallow. *Riparia riparia.* Common only where suitable sand banks offer nesting sites. Since these are rare and local, the species is local in distribution.

Rough-winged Swallow. *Stelgidopteryx serripennis.* Less common than the preceding species, and likewise confined to few and scattered nesting areas.

Cedar Waxwing. *Bombycilla cedrorum.* A common breeding species. Almost as soon as the young are out of the nest the birds begin to gather in small flocks.

Migrant Shrike. *Lanius ludovicianus migrans.* Not common. A Chipping Sparrow and a Myrtle Warbler pinned on a thornapple tree at Plum Lake bespoke the activities of this bird.

Red-eyed Vireo. *Vireosylva olivacea.* One of the most characteristic singers of the woods. Seldom seen, though the birds are really common. Some half dozen nests have been found.

Warbling Vireo. *Vireosylva gilva gilva.* Decidedly less numerous than the preceding, but more frequently seen as they prefer the vicinity of dwellings to the deeper woods.

Black and White Warbler. *Mniotilta varia.* Abundant as a migrant, but one can expect to find the species at almost any time during the summer. Seen both in July and August about Plum Lake. Possibly a breeding species, but no data are at hand.

Tennessee Warbler. *Vermivora peregrina.* Several were seen during July, 1925, about Forest Home on Plum Lake, as well as in camp on Little Gibson Lake.

Yellow Warbler. *Dendroica aestiva aestiva.* Not common, but occasionally seen about the more cultivated dwellings, where the birds are likely to breed in rose bushes or currant patches.

Black-throated Blue Warbler. *Dendroica caerulescens caerulescens.* Several seen and heard about Plum and Little Gibson Lakes, July, 1925.

Myrtle Warbler. *Dendroica coronata.* Seen constantly about Forest Home on Plum Lake, several times carrying insect food, but no nest or young could be discovered.

Chestnut-sided Warbler. *Dendroica pensylvanica.* Forest Home on Plum Lake on June 19; again on August 11. No breeding data.

Black-poll Warbler. *Dendroica striata.* Seen during both July and August, most frequently on evergreen and tamaracks than on hardwoods.

Black-throated Green Warbler. *Dendroica virens.* Two males and one female near Little Johnson Lake are the only records on hand. July 11, 1925.

Pine Warbler. *Dendroica vigorsi.* A single individual at Plum Lake, Forest Home, is the only summer record.

Ovenbird. *Seiurus aurocapillus.* Abundant throughout the region, much more frequently heard than seen. The "teacher" call of the Ovenbird was heard almost daily. Breeder.

Maryland Yellow-throat. *Geothlypis trichas trichas.* Heard commonly and frequently seen about Big Muskallunge, Plum and Nixon Lakes, where they breed in suitable localities.

Redstart. *Setophaga ruticilla.* Quite common in the more open woods about Plum Lake. A nest of young was found near Little Johnson Lake on July 11, 1925.

Catbird. *Dumetella carolinensis.* A common breeding species most in evidence about the lawns of towns and villages. Less often seen in the woods, though a pair nested at Forest Home on Plum Lake in July, 1924.

Brown Thrasher. *Toxostoma rufum.* Common about the towns and even about the houses in the woods, where the singing of the birds is a rare delight. A breeding species.

House Wren. *Troglodytes aedon aedon.* Breeds almost any place an attractive wren house is put up; a common summer resident throughout the more settled areas.

Winter Wren. *Nannus hiemalis hiemalis.* Usually seen scurrying like a little mouse in and out of brush piles and tangled thickets. Shows a decided preference for cedar and tamarack swamps. Not a songster.

Long-billed Marsh Wren. *Telmatodytes palustris palustris.* Not an uncommon breeding species where cat-tail swamps are to be found. Absent elsewhere.

Brown Creeper. *Certhia familiaris americana.* Seen often about Plum Lake, and probably common throughout the region, more especially among the hardwoods.

White-breasted Nuthatch. *Sitta carolinensis carolinensis.* A common breeding species, using the holes made by the Downy Woodpecker for the site. Shows little preference in the matter of tree species.

Red-breasted Nuthatch. *Sitta canadensis.* Somewhat more common, I believe, than the preceding; most common among the evergreens. No breeding data at hand.

Chickadee. *Penthestes atricapillus atricapillus.* A common breeding species, particularly about Plum and Razorback Lakes. A pair with seven babies were much in evidence during early July, 1925.

Golden-crowned Kinglet. *Regulus satrapa satrapa.* Several pairs were seen about Little Johnson and Little Gibson Lakes during early July. Probably nesting in the area, but it is not a common species.

Wilson's Thrush. *Hylocichla fuscescens.* Not common, but several were seen, and others heard, during July and August. One of the finest of the songsters.

Olive-backed Thrush. *Hylocichla ustulata swainsoni.* Somewhat more common than the preceding—at least more frequently seen because it tends to avoid the denser woods. Breeds in hardwoods or bushes, often near dwellings.

Hermit Thrush. *Hylocichla guttata pallasi.* Haunter of the hardwoods only, the Hermit Thrush is, next to the Robin, the commonest of the thrushes. Two nests with young were found early in July, 1925, at Plum Lake.

Robin. *Planesticus migratorius migratorius.* The sight of the Robin, hunting insects along the water's edge, far from civilization (or at least cultivation), makes one feel at home at once. Robins are surprisingly abundant even in the more remote portions of the region. Breeds throughout the area.

Bluebird. *Sialia sialis sialis.* Birds of the more open country, the Bluebird is not at all common in the region. Seen, however, along the roadsides, and about the more open country of the towns. Several pairs were seen about the Plum Lake golf course, breeding in woodpecker holes.

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THE WILSON BULLETIN

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Prof. Gordon Wilson, Bowling Green, Kentucky.
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Mr. Walter W. Bennett, Sioux City, Iowa.

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EDITORIAL

At the recent meeting in Chicago two important changes were made in our official personnel. Mr. Ganier served as Secretary for four years, and later as President for three years. His earnest and faithful attention to official duties during these years has been recognized and appreciated. His successor, Dr. Jones, has formerly held this office, but in a different period of the organization's history. It was thought that Dr. Jones' knowledge and acquaintance would be of particular value to the Club at this time; and it was also thought that, because of his long continued services, Dr. Jones merited such honor as the office might convey.

Mr. Blincoe has served capably as Treasurer for three years. He points with satisfaction to the fact that he turns the office over to his successor without a deficit, notwithstanding the fact that he took the office with a deficit of $600. We regret that his modesty prevents us from showing his portrait to our readers. The new Treasurer, Professor Stack, is actively and enthusiastically interested in our work. We have insisted upon showing his portrait, believing that it will result in better acquaintance and better collections. The prompt and certain collection of our funds is a *sine qua non*, and we wish our new Treasurer unlimited success.

We are running the cover for this issue without color, and would be glad to hear whether it is preferred this way, or with the color. We doubt if a change of color with each issue is desirable; but what shade to adopt for constant use is a problem which we would refer to the artists among our membership.

Enlarged copies of the group photograph of the Chicago meeting may be obtained through Mr. Wm. I. Lyon, Waukegan, Illinois, at $1.25 each.

GENERAL NOTES

Conducted by M. H. Swenk

Two Bird Records from Grafton, North Dakota.— On September 24, 1926, I collected a female Parasitic Jaeger (*Stercorarius parasiticus*) at Grafton, North Dakota: the only record that I can find for this locality. On October 10, 1926, in company with Mr. E. T. Judd, of Cando, North Dakota, I saw a Lewis's Woodpecker (*Asyndesmus lewisi*), which I was not able to secure, just south of here, which is the second record for this locality.—H. V. Williams, *Grafton, N. Dak.*

A Late Record of the Mockingbird at Chicago.—The group of those attending the annual meeting of the W. O. C. in Chicago, which strolled about the ideal Bird Sanctuary north of Lincoln Park, on Sunday, November 28, last, saw many interesting sights but none more thrilling than having a Mockingbird (*Mimus polyglottos polyglottos*) perch for several minutes near it and then make a circle flight about the group so as to display every field mark. Mr. Samuel A. Harper, of Chicago, and Mr. Wm. I. Lyon were among those fortunate enough to be present.—Samuel Elliott Perkins, III, *Indianapolis, Ind.*

A Visitation of the Snow Bunting in Iowa.— The past winter (1926-27) has produced an unusual number of Snow Buntings (*Plectrophenax nivalis nivalis*) and longspurs, the latter presumably the Lapland Longspur. The longspurs appear every winter, but the occurrence of the Snow Buntings is not common. This winter, however, they were distributed quite generally over northern Iowa, as I have found them at Ashton, in northwest Iowa, and at New Hampton and Beulah, in northeast Iowa. The first Snow Bunting appeared late in October, and they have been seen in flocks of from 300 to 1,000 birds.—Chas. J. Spiker, *Ashton, Iowa.*

A Lesser Scaup Duck Resembling the Ring-necked Duck.—In the September, 1926, number of the Wilson Bulletin, at the bottom of page 145, there was described under the head of Ring-necked Duck a supposed hybrid between that species and the Lesser Scaup. Subsequently, this specimen was sent to the Museum of Comparative Zoology at Cambridge, Mass., where it was examined by Dr. J. C. Phillips who says: "The bird is a straight Lesser Scaup and the ringed appearance of the neck is due to contrast between fresh and old plumage at that point. The white patch on the chin is found in varying amounts in a good many examples of Lesser Scaups, though the majority lack it; its presence, however, does not indicate a touch of *collaris* blood."—Wm. G. Fargo, *Jackson, Mich.*

Bald Eagles Along the Mississippi River.—During the past winter (1925-26) a number of Bald Eagles (*Haliaeetus leucocephalus leucocephalus*) wintered along the Mississippi River between Keokuk, Iowa, and Warsaw, Illinois. Two or more of them were to be seen along the river front on frequent occasions. Unfortunately, they attracted the attention of hunters who killed about eight of them during the winter. It is probable that they were attracted to this location for wintering because of the open water below the dam, which made it possible to secure fish without great difficulty. Bald Eagles have been seen here during the winter months nearly every year for some time past, but a larger number were present during the past year than for many years previously.—Frank C. Pellett, *Hamilton, Ill.*

Ground Nesting Habits of the Mourning Dove and Towhee.—The Mourning Doves have greatly increased in numbers since Ohio put them on the song-bird list. Two unusually late nesting dates for Delaware County are September 4, 1921, a nest with nestlings only two or three days old, and September 16, 1921, a nest with young about a week old. Three unusual nests were found in Delaware County on May 24, 1923. The nests were on the ground, in large meadows, and had full sets of eggs. This is our first record for ground nests in central Ohio.

The great majority of early nests of the Towhee, we find on or near the ground. But for several years all the second nests, or July brood, we have found were in small shrubs, or bramble and wild-rose clumps, and from two to five feet from the ground. Is this usual with second nests of the Towhee? Or is it because the nesting association is better in the shrubs when they have a full complement of leaves, and afford better shelter and protection?—Charles R. Wallace. *Delaware, Ohio.*

Some Ohio Bird Notes.—On November 8, 1925, in company with other observers, I found a late flock of fifty Chimney Swifts (*Chactura pelagica*) congregating in a steeple a few miles south of Wooster, Ohio. I believe that this is the latest fall date for this species in northern Ohio.

The Prothonotary Warbler (*Protonotaria citrea*), considered to be a rare or uncommon visitor in northern Ohio, bred in numbers this year in swamps south of Wooster. On June 17, I banded six young which are probably the first birds of this species to be banded.

Specimens, the measurements of which agree with those of the Carolina Chickadee (*Penthestes carolinensis carolinensis*), were collected during the autumn of 1926. This locality is on the borderline between the breeding ranges of the two species, and although the Black-capped Chickadee (*P. a. atricapillus*) winters here, the Carolina Chickadee is probably the breeding form.—James Stevenson, *Wooster, Ohio.*

Notes on the Fall Migration of 1926.—The more interesting matters of my 1926 fall record so far are that, whereas I did not see a single Nighthawk during the entire season, I began seeing them on the evenings of August 28 and 30, and on twelve evenings since, up to September 21, they being seen practically every night that I stood on guard. Out at the Missouri River the other day I saw about fifty White Pelicans. I continue to see now and then a Duck Hawk. I also saw two Turkey Vultures a few days ago, and that is, I think, as many as I saw at Emmetsburg in ten years. A thing that sets me to studying is the fact that Chimney Swifts, that feed fairly low all summer long will be, these evenings, feeding a thousand feet up in the air, where they all seem to be working. What do they get up there? or are they feeding? or merely cooling off? The warblers have been very scarce. I have recorded in migration only one female Mourning Warbler and one Wilson's Warbler. I have seen Ruby-crowned Kinglets twice.—Leroy Titus Weeks, *Tabor, Iowa.*

The Purple Gallinule Carries Its Young.—On June 16, 1926, while watching one of the numerous vegetation-covered ponds near Plant City, Florida, a Purple Gallinule (*Ionornis martinicus*) flew up, paused for a few moments atop some plants, and then proceeded to the edge of a patch of open water where she disappeared. The thing which attracted especial attention was a young bird

which she held by the neck, with its body and yellow legs hanging down—one of her own chicks apparently. It seemed hardly possible that a living bird could be carried in such fashion, yet she appeared to be careful in her movements and created the impression that she was moving a live bird. Her actions earlier had led to the question as to whether there were young birds near where she disappeared.

Later in the day, Oscar Baynard told us that twice while employed at Orange Lake he had seen a Purple Gallinule move her young in this way from one place to another. On one occasion he found two large water moccasins on the tiny island from which the chicks were moved. The second time he could find no reason but believed that in that case also they were moved for greater safety.—Beryl T. Mounts, *Macon, Ga.*

On the Nidification of the Acadian Flycatcher Again.—I have been greatly pleased with the friendly criticism of my identification of the Acadian Flycatcher, as described on pages 43 and 44 of the March, 1926, number of the Wilson Bulletin. As I read further about the Acadian and Alder Flycatchers, admittedly difficult to differentiate, I am not certain which one I had. I now have ten nests of whichever species it is, that have been found, some in upright crotches, some in slanting branches, some from deep woods but most from edges of thickets, some thin enough to see through a wall and some thick; one with trianguar rim, one perfectly round and the others elliptical; one with paper and one with cotton in large quantities in the makeup; one with a second story over a Cowbird egg. I am not ready yet to concede I have had the Alder Flycatcher though I am wavering. After another season with the species, I will give a detailed report of my findings and venture another opinion.—Samuel Elliott Perkins, III, *Indianapolis, Ind.*

An Unusual Flight of Snow Geese in the Lake Winnebago Area.—For the past few years both varieties of the Snow Goose (*Chen hyperboreus hyperboreus* and *C. h. nivalis*) have been uncommon during migrations on Lake Winnebago. In the spring and fall, flocks seldom numbering more than one hundred birds have been observed to remain for a brief period, but those vast hordes spoken of by early writers seemed to have disappeared, until recently.

On November 1, 1926, the writer, while hunting ducks on Lake Winnebago during a severe northeast snowstorm, was attracted to a great swarm of birds coming in from the north. They at first appeared to be ducks, but closer approach enabled their identification as Snow Geese. Driven by the gale, they maintained no particular formation, and they appeared as a part of the drifting snowstorm itself. The darker immature birds gave the flock a peculiar speckled appearance, and great bunches of the birds fairly filled the sky from the limit of vision down almost to the waters' edge.

There seemed to be countless numbers of them, and only one flock was observed to alight on the lake—all of the other flocks maintained a straight course to the south, and in half an hour all were gone.

It was impossible to determine whether they were the Greater or Lesser subspecies, but one specimen shot by a hunter and examined by th writer proved to be the Lesser Snow Goose (*Chen hyperboreus hyperboreus*).

Many of the old time hunters of the vicinity who were questioned as to their estimate of the number of birds, stated that they had seen nothing to equal it

since the early days.—Owen J. Gromme, *Milwaukee Public Museum, Milwaukee, Wis.*

A Loon Strangled by Its Fish Food.—The writer is aware of several instances of the strangulation of the Red-breasted Merganser (*Mergus serrator*) caused by attempts to swallow a fish the greatest girth of which was larger than the extreme capacity of the opened mouth or oesophagus. In at least two cases the inability of the bird to eject the fish was due to the catching of the fins on the inside of the throat, and in one case the lower mandible of the merganser had passed through and under the skin of the fish so tightly as to make it impossible for the bird to extricate it.

It is only recently, however, that an instance of the strangulation of a Loon (*Gavia immer immer*) in this manner has been brought to the writer's attention. On November 27, 1926, Mr. L. M. Nagle, of Eric, Erie County, Pennsylvania, found a Loon dead along the beach at Water Works Park with a fifteen inch Pike Perch (*Stizostedion vitreum*) firmly fastened in its throat. Mr. E. L. Gorenflo, the taxidermist who prepared the specimen, states that the fins were so caught in the throat that it was almost impossible to disengage the fish. The Loon, according to Mr. Gorenflo, weighed approximately fifteen pounds; the fish weighed over one and three-quarters pounds. The weight of the Loon, according to the writer's experience, is somewhat over-stated.

The serrate mandibles of the merganser would tend to make ejecting such a fish a very difficult matter: it seems somewhat surprising, however, that a Loon would not be able to toss the fish up. The photograph is excellent evidence, apparently, that fish are always swallowed whole by these birds. Were the Loon to break its prey into smaller portions, a not impossible feat it would seem, such difficulties as the present one would not be encountered.—George Miksch Sutton, *Game Commission, Harrisburg, Pa.*

Some New Bird Records from Jackson County, Michigan.—European Widgeon (*Mareca penelope*).—A single specimen of this duck was observed April 4, 1925, at Portage Lake. The observers were working in pairs, and made two observations independently and without knowledge of each other.

Lark Sparrow (*Chondestes grammacus grammacus*).—A pair of these birds was seen in an old orchard, June 29, 1924. The pair had been seen here a short time before by Mr. Wm. G. Fargo. In company with the Van Tyne Brothers, of Ann Arbor, Michigan, one was taken at this spot on July 4, 1926.

Harris's Sparrow (*Zonotrichia querula*).—An adult was taken in one of the traps on October 19, 1924.

Nashville Warbler (*Vermivora ruficapilla ruficapilla*).—This species was first found here in summer on June 29, 1924, when one was found feeding a young Cowbird. A male sang from a spruce tree several times. On the following July 11, seven adults and three young were seen. The swamp was visited July 5, 1926, when an adult male and two immature birds were collected. The specimens have been deposited in the Museum of Zoology, University of Michigan, Ann Arbor, Michigan. The birds are found only in the spruces of this one swamp. Barrows in his *Michigan Bird Life* states that it is not known in the southern four tiers of counties. Undoubtedly it is attracted by the spruces.

Yellow-throated Vireo (*Lanivireo flavifrons*).—A specimen of this vireo was taken on June 27, 1926. This bird, an adult male, was found in a large piece of lowland timber composed mainly of oak, ash and hard maple. Although no nest was found it was apparently breeding. Barrows in his *Michigan Bird Life* says that it has been found nesting in the state occasionally. The feet and tarsi were of a very light blue color. This skin has been deposited in the Museum of Zoology, University of Michigan. It is the only summer specimen in the collection.—Leonard W., George S., Harold and Maurice Wing, *Jackson, Mich.*

Notes on the Varying Abundance of the Evening Grosbeak in Michigan.—The December, 1925, number of the Wilson Bulletin, p. 223, contained some notes of mine on the Evening Grosbeak (*Hesperiphona v. vespertina*) in Michigan, concerning which I desire to make it clear that the Evening Grosbeaks there mentioned were not observed at the feeding station. On a preceding page (213) of the same issue, Mr. Bayard H. Christy states that a pair was observed by him at Huron Mountain, Michigan, on May 31, 1925, in the woods on the shore of an inland lake, and he holds the opinion that they were probably belated winter visitants Since much has been written of this species, and the taking of them for winter residents, I am giving below, some notes which I think will be of interest to those who have not found them in summer.

I often heard and saw these birds as they passed overhead in small bands during the first summer that I was in Luce County, Michigan (1913), but at the time I did not know what kind of birds they were. However, as they are one of the most common birds, and were seen nearly every month of each year, they were not forgotten. On May 22, 1920, I identified these birds as the Evening Grosbeak. Since that time I have kept records of them, which are as follows:

In the year 1921, the first one was seen on January 3, and others were seen until about the last of November or the first of December. However, it appeared as if none of these birds remained in that locality through the winter of 1921-22, for the first ones were not seen in 1922 until on May 9. It also appears that none were there through the mid-winter following (1922-23), as the first record for 1923 was February 1. The winter next following (1923-24) appeared to be about the same, the first ones seen in 1924 being on February 11.

On August 13, 1924, I began keeping records of the number of birds seen each day, which, by the way, is the only way to get the real benefit of the migration and abundance of our birds. On going over by "Bird Roll Book" I find that the Evening Grosbeaks were present in numbers of from one to one hundred during the remainder of August, and were seen on every one of those days except one (August 15), a total of eighteen days. In September (1924) they

were observed on twenty-two days, and sixty was the greatest number seen in any one day during the month. During October (1924) they were less in numbers and seen on fewer days, the greatest number seen being seventeen and the bird having been seen on only thirteen days. November was about the same, they having been seen on thirteen different dates; but they were somewhat more abundant, thirty-eight being seen on November 30. During December they were seen on more days, but rather decreased in numbers, being seen on seventeen different days while the greatest number seen in any one day was twenty-seven. During January, 1925, they were seen in much smaller numbers, and on only a few days, for they were seen on only eight different days and four was the greatest number seen. In February (1925) their numbers were still less, they being seen on only four days and one being the greatest number seen. March (1925) was the same as February, only the species was seen on but three days. April (1925) brought them back to about normal numbers, they being seen on thirteen days and thirteen being seen in a single day (April 11). In May, up to the time I left that locality (on May 19), they were seen on fourteen different days and ten was the greatest number seen on any one day (May 18).

After leaving McMillan, Luce County, I did not see any Evening Grosbeaks until December 30, 1925, when I saw one at Vicksburg. One individual was also seen on each of the following dates: December 31, 1925, and January 2, 3, 5, 7, 12 and 30, 1926. It came to feed on the seeds of the Boxelder. In Luce County, where I saw them they fed to a great extent on the wild cherries, and I saw some in winter feeding on such seeds of these cherries as were yet on the tree, but their favorite food in winter in that locality appears to be the seeds of Ironwood.—O. M. Bryens, *Three Rivers, Mich.*

An Unusual Nest of the White-breasted Nuthatch.—Last year my father and I made and put up a variety of nesting boxes for the birds, as well as a few for the squirrels, which were on the sixteen acres near Atlanta that we were making into a bird sanctuary.

One box we had fixed for squirrels was a large soap box and we placed it high up in the large white oak tree, on the crest of a hill. During the spring we kept checking up on the boxes occupied and were pleased to find three pairs of Tufted Titmice, two pairs of Chickadees, a pair of Great-crested Flycatchers and a pair of Bluebirds.

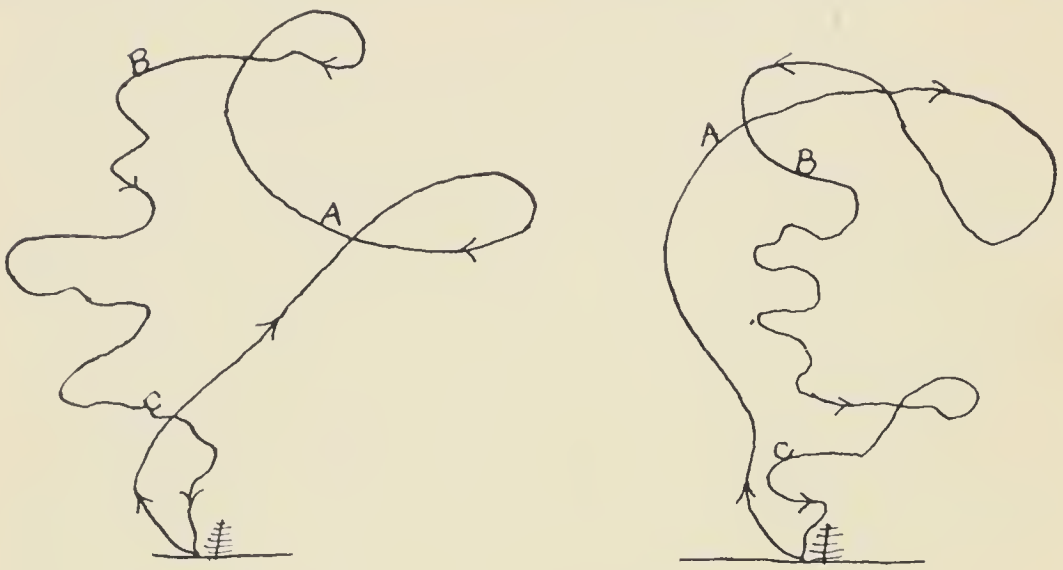
One day, standing near the crest of the hill, I saw a pair of White-breasted Nuthatches carrying strips of bark into the soap box. Often they would carry strips larger than themselves. They were very industrious and paid no attention to us. The birds used the bark to cover the entire floor of the box and the layer was about half an inch in thickness. They then proceeded to collect little pellets of dried earth and lumps of mud which was scattered thinly over tthe bark.

After this preliminary they started on the nest proper, which they placed in a back corner of the box. The nest was saucer-shaped and constructed of small twigs, grasses and rootlets.

Then, as if not quite satisfied, this unique pair discovered a dead rabbit—one that had been dead for some time—and proceeded to line the nest proper, as well as the rest of the box, with rabbit fur, so that when completed the box smelled more like a buzzard's domicile than a nuthatch's home. Brer' Rabbit's fluffy tail held a conspicuous place in the middle of the box.

In due course of time five eggs were laid, incubated and hatched, the little ones raised, and soon all were a familiar sight about the sanctuary.—Lucien Harris, *Atlanta, Ga.*

The Flight-Song of the Woodcock.—This is the second year that I have observed the remarkable flight-song of the Woodcock (*Philohela minor*). On March 10, 1926, he had returned and started his flight-song, the same as last year,



in a high, dry, open field with small, scattering coniferous trees. I have seen two other Woodcocks, performing in similar places for two years, so I know that they return year after year to the same spot. Above are two diagrams of his maneuvers. As nearly as I can tell the highest point was about 250 feet. There are five notes, at least, which he utters and I will describe them in order.

When he first flies to the spot of performance he sometimes utters a grating "*cra-ra-ra-ra.*" Then he remains on the ground a few minutes and repeats his call, an insect-like note, somewhat resembling the note of a Nighthawk (*Chordeiles virginianus*), but very hard to describe. Soon he flies up, making a loud steady whistling which is probably produced by the wings, although I have flushed many Woodcocks in the daytime and they did not make a sound as they flew off. When he has proceeded to the point marked A on the diagrams the steady whistle changes to a twittering whistle, which continues until he starts to descend (B). As he comes down, in swift zig-zag motions, he commences a loud chirping and twittering which is his real song. This is continued to point C, where all noises cease and he flutters down silently on half-drooped wings to the spot from where he flew, and the calling is again repeated.

Before utering his call, and sometimes three or four times in succession, he utters a low "*p-u-r-r*" which resembles a mother cat calling her kittens, but this can only be heard when you are within ten or fifteen feet of him. The time spent in the air at each flight is one minute or less, and the time on the ground is from one and one-half to three minutes. He calls from sixteen to forty times while on the ground and flies about twelve or fifteen times each evening except when there is a full moon. I once stayed out until after twelve o'clock on a full-moon light night watching him, and he was still performing when I left, but the stay on the ground was prolonged greatly. On cloudy nights he begins

earlier, which shows that he is controlled by the amount of light. When the evening is windy or rainy he flies fewer times and remains longer on the ground.

He is frequently answered by his mate when he calls, and sometimes she flies near him. When she does this he rises and flies after her. Once while chasing her he flew within four feet of my head as I was standing in the open field.—Loring W. Turrell, *Smithtown Branch, N. Y.*

Warbler Records for 1925 from Central Iowa.—Being located in about the central part of Iowa, and near the valley of the Des Moines River, we should really be in the path of the great warbler migration, but one must be on the alert to be fortunate enough to see them as they pass through on their northward flight, for the great wave usually passes over in a day or two. This year I was unfortunate in not being able to get out on the exact days when the wave passed over. Still, it proved to be my best year for warblers, anyway, and had I been out on May 16 I am sure that I would have listed many more.

The warblers listed as to the date of their *first* appearance were as follows: On April 12, the Myrtle Warbler; on April 19, the Louisiana Water Thrush; on April 24, the Palm Warbler and the Oven-bird; on May 3, the Blackpoll Warbler; on May 10, the Yellow Warbler and the Northern or Maryland Yellow-throat; on May 15, the Cape May Warbler, the Black-throated Green Warbler and the Redstart; on May 17, the Magnolia Warbler, the Blackburnian Warbler, the Tennessee Warbler, the Parula Warbler and the Black and White Warbler; on June 1, the Blue-winged Warbler; and on September 8, the Nashville Warbler.

I think the great wave passed over on May 16, but being unable to get out then I spent five hours in the open on May 17, when I listed the following: Maryland Yellow-throat, Redstart, Blackburnian Warbler, Yellow Warbler, Blackpoll Warbler, Tennessee Warbler, Black and White Warbler, Magnolia Warbler, Cape May Warbler, Parula Warbler, and Oven-bird, making a total of eleven species of warblers in one day. On May 19, just two days later, I spent the entire day in the open, using every hour of daylight, and listed eighty-nine varieties of birds, but this list included only six warblers, hence I concluded that the height of the warbler wave passed over central Iowa on May 16 and 17. The Blue-winged Warbler was observed on June 1 at Ledge's State Park, hence I judge that it must have been nesting there. The Nashville Warbler was captured in town, where it flew into a building. It was brought to me, and after having the specimen in our hands and examining and measuring it very carefully, there was no difficulty in identifying it as the Nashville.

None but a true bird lover can appreciate what I mean when I say that I would rather spend a day in God's great out-of-doors in the middle of May, to be thrilled by the golden flash of the beautiful Blackburnian Warbler, to watch the stately Black-throated Green Warbler, with his wonderful plumage, and the dizzy gyrations of the beautiful fan-tailed Redstart, to see the dainty little Magnolia Warbler and the plodding Black and White Warbler, and to listen to their marvelous music, than to wander down through great avenues of man-made structures and listen to man's mechanical music, and I sincerely hope that our forests and our warblers may be preserved for us for all time to come, that as we grow older we may renew our youth each spring when we go out to watch for these, the most beautiful of all our songsters.—W. M. Rosen, *Ogden, Iowa.*

BIRD BANDING NEWS

Conducted by Wm. I. Lyon

BANDING FRANKLIN'S GULLS IN ALBERTA

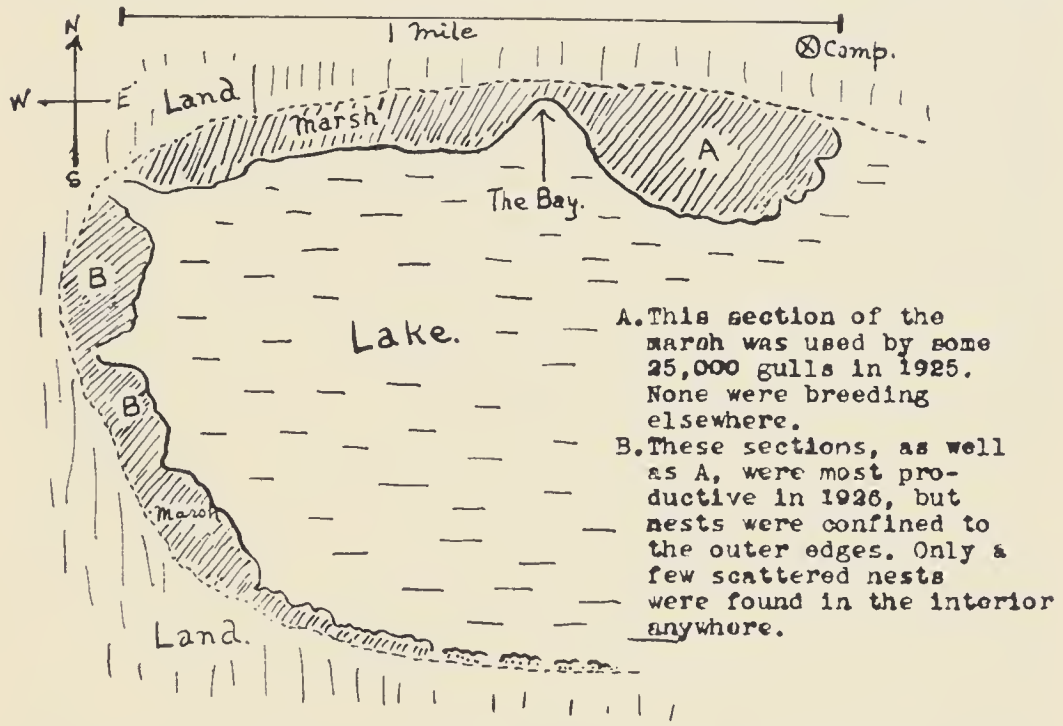
BY WILLIAM ROWAN

Any serious student of migration must have investigated at some time or another the possibilities of the banding method as a means of solving some of the problems of migration. An analysis soon convinces one that some ways of banding are likely to be far more remunerative than others. Examination of the literature, moreover, reveals the fact that systematic banding is superior to promiscuous banding and that the ringing of young of some selected species in large numbers is more likely to be productive of results that can be scientifically utilized than the casual and indiscriminate banding of birds in migration. True, any banding, if properly carried out by qualified individuals who know what they are doing and know the birds they are handling is likely to produce results of one kind or another—sometimes of quite unexpected interest—but a systematic effort with definite objects in view is the method *par excellence*. It was with something of this sort in mind that the writer decided to make an attempt to band 10,000 young Franklin's Gulls from a single colony in a single season. The Franklin's Gull was chosen for a number of reasons. A large gullery, easily accessible from Edmonton, has been kept under observation for some years. The habits of the birds have been studied and records kept of the dates of arrival and departure. The Edmonton district is not far off the northern limits of the species, a fact that is likely to add much interest to the returns. Related species have been intensively studied by the banding method in Europe and have produced results of exceptional interest from the writer's particular viewpoint. From our observations on this colony we have concluded that birds do not breed until they have attained their second year. Returns from banding may throw light on the movements of these immature birds and so contribute to one of the most important of the theoretical aspects of migration. The colony was so large that it offered an exceptional opportunity for utilizing it and it alone for the banding of a number sufficient to be really useful, a great point in its favor. Lastly, the general situation was so unusual and favorable that it looked as though the project could be carried through in a single morning. Although two were finally devoted to it, had it threatened to be a long drawn out affair time could not have been found to attempt it.

It seems a pity that banding is so frequently alluded to as an experimental method, for it is strictly not experimental at all. There is no interference with natural conditions, no interruption of the subject's normal life and activities. It is merely marked and made recognizable, the expected return depending on the vagaries of fortune.

A description of the breeding ground is essential for a correct understanding of the undertaking. It consists of a marsh some two and a half miles in length fringing a bay, the mouth of which faces approximately east. The marsh attains its greatest width of about 250 yards along the north arm. About three-eighths of a mile from its commencement is a deep bay where the open water comes within 30 or 40 yards of the shore. Beyond this the marsh widens appre-

ciably again but thins out towards its other end, finally dwindling out altogether. In previous years nests have been entirely confined to the section of the northern arm lying to the east of the bay. (A, sketch map). Here some 20,000 birds were breeding in 1924, the estimate being arrived at by a count of the nests over selected and representative areas. In 1925 there were probably over 25,000 adults. At least the same number of young must have been available for banding. The nests were so thickly packed that it was impossible to walk between them in many places without dragging some of them into the mire and upsetting numerous eggs. The lake, which has been dropping for many years, showed signs of rising again in 1924. The following year it had again risen slightly, but even so the water in the marsh was only a few inches deep. Open stretches were limited in extent and barriers of matted reeds occurred everywhere. Twenty-five young



were ringed in 1925. They were picked up in a few minutes without trouble as they could not make their escape through the natural barricades. All the circumstances together, therefore, offered ideal conditions for intensive banding—an almost unlimited supply of birds, shallow water, and the whole marsh an intricate net work that precluded the necessity of lengthy and strenuous chases after the quarry. Arrangements were made with the Biological Survey for a supply of 10,000 bands, provided that the birds returned in their expected numbers in 1926. During the first week of May this year the colony was visited. Although early, the birds were then returning in promising numbers. A report to that effect was sent in to the Survey and the bands ordered for the middle of June.

My plan of campaign was briefly this. In the first place, I had very little time at my disposal and my aim was to get the entire 10,000 banded in one morning. From the time involved in ringing the 25 young in 1925, I estimated that under the same conditions (those just described) any normally active individual should manage to band 100 birds per hour, provided that certain arrangements were made beforehand. (See below). I therefore enlisted 20 willing souls

to join in the fray which was scheduled to last for fire hours, every one to dispose of 500 bands in that time. The date finally selected was June 24.

We encountered the first hitch before we left town when nearly half the party for various reasons found that they could not come. Only 13 instead of 20 actually took part. One of these was chiefly engaged in photography, leaving only a dozen active banders. We left Edmonton on the evening of the 23d and motored 60 miles to camp, the cars being very kindly provided and driven by the owners who took part in the activities. It was dark when we arrived and the volume of sound coming from the gullery was much slighter than it should have been and appeared to be spread out over the whole marsh. This was a bad omen, for it meant that the concentration of young, largely depended upon for making time, would prove a myth in the morning. At 5 A. M. we prepared breakfast and aroused the party. The night had been very cold or reveille would have been at least an hour sooner. By six o'clock we were in the marsh and here we received our greatest disappointment. The lake had risen considerably, the water being from knee to waist deep on the outer edge. There were innumerable runways, some of them 100 yards or more in length. The densely matted interior of the usual breeding section (A) was devoid of nests altogether, only the outer fringe in the deeper and more open water being in use. Adults were flying all over the two and one-half miles of marsh and as we had surmised in the dark the previous evening and ascertained for certain later in the morning, they were nesting along its entire length and, moreover, on the outer edge only. It was quite evident, in fact, that our fate was sealed. There was not the remotest chance of banding 10,000 young during the morning. All the ideal conditions of the last two years that had made the proposition so tempting had disappeared.

As we proceeded we became aware of the worst of all the tricks that fate had played us. The actual number of the gulls, all sections included, was probably less than a third of the number that had occupied the limited eastern portion alone the previous year. As though all these troubles were not enough we found the number of two eggs to a clutch extremely high and the rate of mortality excessive. In addition to the usual fate—violent death—that always befalls a certain percentage of young in such a colony, many were suffering from a disease with well defined symptoms of which nothing seems to be known and which we are now attempting to diagnose from preserved material. The total number of available chicks was thus only about a fourth to a fifth of what we had expected to find and they were scattered all over creation with every facility for giving us those exhausting chases that we had reckoned upon avoiding.

At nine o'clock we came in for refreshments and a badly needed rest. A rough tally showed that only some 3,000 bands had been disposed of. Banding was continued from 10 to 12 when the last worker came in so tired out that he could hardly stand. Several had reached the limit of endurance long before. We were then a few hundred short of 5,000. After a long rest, the return to Edmonton was made. Three members (Messrs. Taverner, Harrold, and Laing) stayed on till the next evening to complete the 5,000.

It is of interest to note particularly that five of us, in spite of all the handicaps and unexpected difficulties, placed over 500 bands each in five hours. My original estimate of 100 per hour per bander was therefore not in the least too sanguine and had conditions remained as they were the year before the rate

would have considerably exceeded the estimate. Mr. C. G. Harrold made record time with 600 bands.

On the occasion of this first visit it was quite evident that the usual large second instalment of hatching would not be available this year, for nearly every egg had already hatched. It was therefore imperative that a second attempt should be made inside ten days. While not a single youngster was flying on June 24, a few were getting well grown. Our hopes of ultimate success by means of a second onslaught rested chiefly on the western end of the marsh (B. B.) where we had banded but few chicks on the first trip and where they were comparatively abundant.

My efforts to raise a party for the week-end of July 3-4 were abortive. It was a universal holiday week-end. Every day now lost meant some hundreds of birds less available than the previous day could offer. I attempted to arrange a party for the middle of the week but this was equally futile. On July 10, however, nine of us left Edmonton after lunch and two more came in from Camrose in the evening. The week's delay was fatal. Thousands of young had learned to fly and had left the marsh for good. We worked for a couple of hours that evening and from 7 to 11 o'clock on Sunday, the 11th. The total for both trips finally proved to be only 6,725. Words cannot describe the labor of that second visit. Every step in the sticky ooze that makes the marsh bottom was an effort to begin with, but towards the end it felt as though 50-pound weights were tied onto our feet. All the birds were on the verge of flying. To race them through the open water was well nigh impossible. Each band placed that day involved mental as well as physical effort and one bander after another dropped out from sheer exhaustion; and by 11 o'clock the effort had automatically come to a conclusion. The last bander was played out.

At the very end, those of us who still survived, attempted a drive round the margin of the home end of the marsh, hoping to get the chicks onto dry land and into rough, tall grass where catching and banding would have been relatively simple operations. A hundred yards from shore we had at least 2,000 birds before us and virtually had them in our hands. And just at this point the whole maneuver failed through lack of co-operation. It was unfortunate, but could not be helped, for two of the herders guarding strategic points, collapsed in the reeds, incapable of moving another yard. The birds just seeped away and we only landed three or four hundred. The behavior of the young in the grass was quite interesting. They could not see the marsh, nor even the lake on account of their short legs and the height of the herbage, yet they waddled off in a bee line for home as soon as released. They no doubt took aural bearings from the parental hubbub in the marsh. All these birds were large and nearly able to fly or we should not have adopted these tactics.

With regard to the second visit, there is one point of special interest. On our first trip we had refrained from banding the very small chicks, the diseased and the injured. On the second occasion not a single banded bird was found dead. The point is well worth special mention in view of the criticisms so often leveled at the banding of chicks in such colonies.*

*Mr. J. A. Munro, Chief Federal Bird Officer of Western Canada, later made a trip through the marsh and found one banded chick dead. Since then we have had several duck shooting trips to the marsh and the adjacent shore lines and on occasion have hunted particularly for dead gulls. Including Munro's bird, four only have been found.

In conclusion, a word of explanation on the subject of the preliminary arrangements referred to above. The type of band used was, at my request, the simple split ring. These were specially made for the occasion of extra heavy metal at the instigation of the Biological Survey. They arrived strung in numerical order on wires, a thousand to a string. On account of their stoutness they were quite difficult to open with the fingers. It was evident that if any reasonable rate of banding was to be kept up the bands would have to be opened beforehand. This was imperative from the psychological viewpoint also. With one or two exceptions none of my volunteers was interested in banding. Had the "chore" of opening the bands been thrust upon them all enthusiasm would have died an inevitable death at the outset. The bands were therefore supplied ready opened. The opening gave two people a long day's work at the best speed they could make. Tough paper bags, numbered from 1 to 200 in large figures on the outside were used to hold the bands, 50 going into each bag, the first 50 into No. 1, the second 50 into No. 2 and so on. When camp was reached and the first sortee made bags 1 to 13 were first distributed, one bag to each bander. A second round was then given out, bags 14 to 26, and so on till each bander had five bags containing 250 rings. After instructions had been issued as to how and where to place the band, etc., each bander was particularly requested to use up the bags in numerical order. No attention had to be paid by the workers to the actual numbers of the bands. The bag in current use was emptied into a convenient pocket and the bands drawn out at random. When the first return to camp was made the majority had used all five bags, but some had one or two over complete while others returned with broken fifties. Before the second sortee was made these odd bands were collected up and redistributed into the pockets of all for immediate use. More bags were served out as well, a few extra going to the more active members. At the end of the morning, when all came in for good, the broken fifties were set aside to be disposed of first thing the following day by those remaining. And so the irregularities, inevitable in using such methods, were smoothed down. On the second trip, which proved so wearisome, breaks in series were more serious and the used numbers toward the end were freely interspersed with those unused. This has unduly complicated the returns, but then the difficult situation we had to contend with was wholly unexpected. My original intention was to collect up the odd bands as soon as the party came in and return to the marsh with a couple of helpers and dispose of them then and there and so irradicate the breaks. As it was we were stiff, aching, completely exhausted, suffering from cramp and barely able to lift our own legs, even on *terra firma*. And so the breaks were regretfully left as they were and the ragged records returned. This unforeseen contingency has suggested improvements on the method employed which would be adopted on a future occasion.

Finally I should like to express my heartiest thanks to the members of my parties who worked like Trojans and did all in their power to make the undertaking a success. The parties were made up as follows:

June 24—Mr. P. A. Taverner and his field workers, Messrs C. G. Harrold and Hamilton Laing who travelled 120 miles by road to participate; Mr. B. Lawton, Game Commissioner of Alberta; Dr. R. A. Rooney, President of the Northern Alberta Game and Fish Protective League; Professors E. H. Strickland, D. A.

MacGibbon, and O. J. Walker; Messrs. D. E. Cameron, E. Stansfield, H. P. Mullet, and B. J. Mair.

July 10 and 11—Professor Strickland (the only repeat); Messrs. R. B. Sandin, G. F. K. Buckley, J. Lehmann, W. H. Kutz, A. Mail, A. Revell, L. Wise; Messrs. F. L. Farley and A. Twomey, both from Camrose.

Although this account of our banding is strictly a record of failure rather than of achievement, we can confidently look forward to returns of a particularly valuable kind, for all the birds were banded as young, i. e., at the beginning of their life's journey as well as of their first migration, in one season and from a single colony. Although we fell short of even seven thousand, it is a useful number, for a four per cent return may legitimately be expected from gulls. Our first distance record (about 30 have since come in) is in itself sufficiently remarkable for on July 14—two days after we had banded the last of them—No. 446128, (one of the first five thousand), was picked up near Tioga, N. D., crippled. On June 24 there was not a chick in the marsh that could fly. Not one was as advanced as the largest non-fliers handled on the second trip. No. 446128 could not have been a-wing for two weeks, yet it had covered nearly 600 miles of its long trip to the southern hemisphere, a truly noteworthy performance.

University of Alberta,
Edmonton, Alberta.

PROCEEDINGS OF THE WILSON ORNITHOLOGICAL CLUB

Thirteenth Annual Meeting

The Thirteenth Annual Meeting of the Wilson Ornithological Club was held at Chicago, Illinois, on Friday and Saturday, November 26-27, 1926. The Inland Bird Banding Association met at the same time and place in conjunction with the W. O. C. During the day the sessions were held in the lecture room of the Chicago Academy of Sciences; on Friday evening a session was held in Fullerton Hall of Chicago Art Institute especially for the public, though all sessions were open to the public. On Saturday the annual banquet was held at the Parkway Hotel. On the following day, Sunday, two parties were formed by those who remained over the week-end; one group assembled at the Field Museum of Natural History; another group visited the new sanctuary, located on reclaimed ground, which is now a part of Lincoln Park.

THE CHICAGO PROGRAM

Friday, November 26, 1926

Forenoon Session, 9:30 O'clock.

Lecture room of the Chicago Academy of Sciences.

Address of Welcome. Dr. Henry C. Cowles, President of the Chicago Academy of Sciences.

In extending a cordial welcome to the Academy Dr. Cowles referred to the fact that the Wilson Ornithological Club held its initial meeting in the same room just thirteen years ago.

Response in behalf of the Wilson Ornithological Club and the Inland Bird Banding Association. William I. Lyon.

GROUP AT THE THIRTEENTH ANNUAL W. O. C. MEETING, AT CHICAGO

KEY TO GROUP PICTURE: 1, Sherman Coryell. 2, Dr. Alfred Lewy. 3. Mrs. Alfred Lewy. 4, Robert Lewy. 5, Chresswell J. Hunt. 6, Mrs. H. C. Miller. 7, Mrs. W. D. Richardson. 8, Mrs. Howell. 9. C. W. G. Eifrig. 10, O. M. Schantz. 11, Wm. I. Lyon. 12, Benj. T. Gault. 13, Lynds Jones. 14. T. C. Stephens. 15, A. F. Ganier. 16, F. C. Lincoln. 17, S. Prentiss Baldwin. 18, Herbert W. Brandt. 19, George Finley Simmons. 20, W. N. Keck. 21, Weir R. Mills. 22, Edward Komarek. 23, Harold C. Wilson. 24, F. W. Rapp. 25. Ruthven Deane. 26, Frank Grassett. 28, Clifford Dorsey. 29, L. Ermil Butler. 30, Mrs. Ruthven Deane. 31, S. E. Perkins III. 32, Wm. Youngworth. 33, Mrs. H. L. Baldwin. 34, Russel Lee Walp. 36, F. H. Letl. 37, Mrs. A. L. Feser. 38, Mrs. E. T. Barody. 39, Oscar P. Allert. 40, Belle Wilson. 42, Dorothy Vent. 43, Catherine A. Mitchell. 44, Marjorie Ruth Ross. 46, Emeline C. Bates. 48, Mrs. S. H. Adams. 49, Mrs. C. Bretsch. 50, Mrs. Thos. Cox. 51, Mrs. W. E. Trainer. 52, Mrs. F. H. Pattee. 54, Helena Woltman. 55, Mrs. C. O. Decker. 56, Emeline Lutz. 57, F. H. Pattee. 58, Clarence Bretsch. 59, Mrs. Anna M. Neu. 60, Chas. G. Pickert. 61, C. O. Decker. 62, J. W. Magann. 63, Mrs. C. G. Pickert. 64, Mrs. Hiram Towns. 65, J. W. Stack. 66, Warner Taylor. 67, C. W. Melcher. 68, Wm. G. Fargo. 69, M. M. Smith. 70. Pierce Brodkorb. 71, Mrs. C. W. Melcher. 72, A. Sidney Hyde.

1. Intensive Bird Study at Riverside Park. S. E. Perkins III, Indianapolis, Indiana. (Chart).

   Intensive observations over an eight-acre area revealed an average of twelve nests per acre. Sixty-four species were found during the year. Fifty-five nests were found in June, twenty-six in July. Ninety-eight fledglings were banded; ninety escaped unbanded. The author's only returns from the Gulf States were birds which had been banded as fledglings.

2. Some Notes on the Junco. Mrs. F. W. Commons, Tanager Hill Station, Crystal Bay, Minnesota.

3. Trapping the Shorebirds. Clarence S. Jung, Milwaukee, Wisconsin.

   Work with the shorebirds was instituted by Herbert L. Stoddard. An attempt was made with a common sparrow trap, but it was discarded as useless. Next day, however, it contained two sandpipers. It is now suggested that a sparrow trap with funnel at both ends be used, thus getting the birds from both directions. A line of netting, two or three inches high, may extend for several feet outward from the trap entrance, thus effecting a very large funnel. Many shorebirds have been trapped by this method especially the Least, Semipalmated, and Spotted Sandpipers. Of eight Spotted Sandpipers banded in one afternoon, six, when released swam under water for a short distance, then arose to use the wings in flight.

4. The Home Life of the Turkey Vulture. Russel Kempton, Richmond, Indiana. (Read by P. B. Coffin).

   The female bird makes the "nest" by breaking bits of decayed wood from the walls of the cavity. Nest did not become foul.

5. Developing a District. Mrs. H. C. Miller, Racine, Wisconsin.

   There are many methods of arousing interest in birds and their study by the banding method. It is a problem of organization.

Afternoon Session, 1:30 O'clock.

Lecture room of the Chicago Academy of Sciences.

6. Banding Franklin's Gulls in Alberta. William Rowan, Edmonton, Alberta, Canada. (Read by S. E. Perkins III). This paper appears in full in this number.

7. A Thermo-couple Device for Recording Nest Activities. S. Prentiss Baldwin, Cleveland, Ohio.

   In order to secure a complete record of the movements of the parent birds at several nests simultaneously an instrument known as a thermo-couple was devised. A network of wires was placed in the body of the nest before the eggs were laid. The slightest change of temperature affecting the wires caused a flow of electric current to an automatic recording needle. The record sheet would then show the length of time the old bird was on or off the nest. This device keeps a complete and continuous record throughout the twenty-four hours of day and night. A roll of paper about sixty feet in length is necessary for the record of the usual three weeks of nest activities before the hatching.

8. The Mentality of the Crow. William Brewster Taber, Jr., Kansas, Illinois. (Read by C. S. Jung). This paper appears in full in this number.

9. The Voyage of the Blossom. George Finlay Simmons, Cleveland, Ohio. (Lantern slides).

   This intensely interesting narrative of the long voyage of this small sailing vessel, about two-thirds of the size of the Santa Maria under Columbus, was one of the features of the meeting. The speaker defined adventure as "misfortune happening to someone else a great way from home." Starting from the Atlantic coast the cruise of the Blossom led through the Sargasso Sea, to the Cape Verde Islands, south along the coast of Africa, stopping at Ascension, and St. Helena, thence across the Atlantic Ocean to the east coast of Brazil. The story of the trip is to be told in book form.

10. The Gull, Tern, Heron, and Cormorant Campaign. William I. Lyon, Waukegan, Illinois.

This was a narrative account which was published in substance in the last issue of the Bulletin.

11. Trapping Ducks in the Bear River Marshes of Great Salt Lake, Utah. F. C. Lincoln, U. S. Biological Survey Washington, D. C. (Lantern slides).

The Bear River marshes probably provide the largest duck breeding area in the United States, although there are larger ones in Canada. There is also a colony of Snowy Herons in this region. Trapping operations were carried on here, and as many as 300 ducks (mostly Redheads) were trapped and banded in one day. The alkali flat near Bear River becomes very hot in summer, and great cracks appear. Seeds and insects blown by the wind, accumulate in these cracks, and become saturated with the free alkali. Later ducks are poisoned by eating this alkali-soaked material. Thousands of ducks die from this cause, many more doubtless recover. The remedy seems to lie in preventing this strong alkali concentration. A dam across the Bear River would probably accomplish this. The sick ducks recover if placed in fresh water. Of the ducks banded in 1926, forty-three returns had been reported up to November 25, 1926. These returns came from Wyoming, Colorado, Kansas, Texas, Idaho, Montana, California, Nevada, and one came in October from Minnesota. These returns are interesting in showing that the Bear River marshes of Utah are a source of supply of ducks throughout the greater portion of the west.

Evening Session, 8:00 O'clock.

Fullerton Hall in the Chicago Art Institute.

12. Introductory Address. Lynds Jones, Oberlin College, Oberlin, Ohio.

Dr. Jones presented a general historical account of American ornithology, including, at the end, a brief account of the origin of the Wilson Ornithological Club and other enterprises of the eighties and nineties.

13. The Life History of the House Wren as Worked Out in a Bird Research Laboratory. S. Prentiss Baldwin, Cleveland, Ohio.

Observations are made without the use of blinds. Eggs and young are handled frequently, and are even carried from the nest to the laboratory for weighing. Males are usually in excess of females, and they arrive first in the spring. He builds a nest but no lining is put in until a mate is secured. After acquaintance is established the watchers can distinguish the individuals of a pair, not by color, but by actions. The female does not allow the male in the nest after the eggs are laid. Under these circumstances the male quite often picks up another mate and starts a new household. After the first brood is hatched the female may succeed in turning them over to the care of the parent male, while she becomes interested in the supernumerary males, these facts being easily determined by the numbered bands on the birds. The young birds are banded with safety on the eighth day, having by that time reached their full size.

Saturday, November 27, 1926

Forenoon Session, 9:30 O'clock.

Lecture room of the Chicago Academy of Sciences.

14. Wild Life Areas for the Protection of Birds and Mammals. Gordon Wilson, State Teachers College, Bowling Green, Kentucky.

A discussion of the sanctuary idea with special attention to local work.

15. Our Changing and Vanishing Bird Habitats. C. W. G. Eifrig, River Forest, Illinois.

A description of seven or eight natural bird haunts in various parts of the country which have succumbed to modern development.

16. A Big Day for the Quartette. W. M. Rosen, Ogden, Iowa. (Read by Miss Catherine A. Mitchell).

An account of a full day's field work in which a very large list of birds was secured, including some rare ones for the locality.

17. Bird Life in the Yukon Delta. Herbert W. Brandt, Cleveland, Ohio. (Lantern slides).

A fascinating narrative of travel and bird study in a far off corner of our western hemisphere. The locality described was 300 miles north of the tree limit, where the Eskimos are at home. Shorebirds were abundant here, including sandpipers, phalaropes, and turnstones. Eider Ducks, Pintails, the Black Scoter, the Emperor Goose, Loons, Ptarmigan, various gulls, and the American Rough-legged Hawk were observed. Pictures of many species, made under difficult conditions, added greatly to the interest of this hour's lecture.

18. Birds of the West Coast of Ireland. Benj. T. Gault, Glen Ellyn, Illinois.

Mr. Gault has recently returned from a sojourn of two years in Ireland, during which time he took advantage of every opportunity to study the bird life, especially along the coast. He became interested particularly in the Puffin, Lesser Black-backed Gull, Fulmar Raven, Hooded Crow, etc.

Afternoon Session, 1:30 O'clock.

Lecture room of the Chicago Academy of Sciences.

19. The Yellow-crowned Night Heron as a Summer Resident. Albert F. Ganier, Nashville, Tennessee.

20. Bird Study from an Automobile. Lynds Jones, Oberlin College, Oberlin, Ohio. This paper is published elsewhere in this issue.

21. The Wilson Club Endowment Plan. Albert F. Ganier, Nashville, Tennessee.

22. Wild Life in the Land o' Lakes of Wisconsin. Owen J. Gromme, Public Museum, Milwaukee, Wisconsin. (Motion pictures).

One reel depicted the home life of a number of common birds, such as the Kingfisher, the Red-winged Blackbird, etc. Another reel gave glimpses of the Turkey Vulture and several hawks. The pictures of the Loon at its nest were, however, the most unusual and attractive. It is probable that the Loon has never before been so successfully photographed.

23. Catching Chimney Swifts and the Results. Herbert L. Stoddard, Beachton, Georgia. (Motion pictures).

An account of remarkable results in trapping and banding a single species. It is comparatively easy to capture Chimney Swifts in quantity by placing traps over chimneys in which they are roosting. Considerable improvement has been made in the construction of these traps with the experience of several years. In 1924 only 74 Chimney Swifts were banded; in 1925 the number banded was increased to 2,264; while 3,530 were banded in 1926. From one chimney alone 856 were trapped and banded. Apparently the birds do not follow a definite line of movement. One of the 1924 swifts was captured in New Hampshire; another which was banded in 1925 was retaken in Massachusetts. A swift banded in Florida in August was retaken in Georgia in September. They may even travel somewhat northward in their fall movement.

Evening Session and Dinner, 6:30 O'clock.

Egyptian Room of the Parkway Hotel.

Annual Dinner of the Wilson Ornithological Club, with the Inland Bird Banding Association.

Exhibition of the motion pictures made by Norman McClintock, of Pittsburg, at Larehmound, the home of Robert Ridgway, near Olney, Illinois. The pictures were explained by O. M. Schantz.

Following this a number of persons were called upon informally for remarks. Reference was made to the absent founders and honorary members, and the officers were asked to send greetings to these gentlemen in behalf of the Club.

Business Session. During the regular program sessions on Saturday, November 27, the following committees were appointed:

Committee on Nominations: C. W. G. Eifrig, Chairman ,Warner Taylor, Herbert W. Brandt.

The thirteenth regular busines session was called to order at 5:00 P. M., November 27, 1926, with President A. F. Ganier in the Chair. Miss Marjorie Ruth Ross was appointed Secretary *pro tempore.*

The New Treasurer
J. W. Stack

The Endowment Committee, consisting of V. C. Bonesteel, Chairman, O. M. Schantz, and Clarence Bretsch, offered a report through Mr. Bretsch. The Committee recommended that (a) the Wilson Ornithological Club become incorporated, (b) that a campaign to raise a permanent endowment fund be inaugurated at the earliest possible time, (c) that such funds, when collected, be deposited with a corporate trustee under a trust agreement to be approved by the Club. These recommendations were adopted. The Committee also presented for approval a proposed trust agreement. This agreement was adopted as presented, with the exception of a clause relating to certain geographical limitation; and the Committee was instructed to re-write the document with the alteration. Some members misapprehended, perhaps, the intent of the original wording; it was not intended to limit the "dissemination of knowledge" nor the distribution of the magazine, but only the disposition of the fund itself in case the W. O. C. should become defunct. The re-written document is printed in full below.

The officers were instructed to make arrangements for life membership, drawing up, if necessary, an amendment to the Constitution.

The Committee on Nominations presented the following report:

For President—Lynds Jones.

For Vice-President—Thomas H. Whitney.

For Treasurer—J. W. Stack.

For Secretary—Howard K. Gloyd.

For Councilors—P. B. Coffin, Dr. Alfred Lewy, Chreswell J. Hunt, Clarence Bretsch, A. F. Ganier.

The report of the Committee was unanimously adopted, and the gentlemen named were declared the elected officers for the ensuing year

Howard K. Gloyd, *Secretary.*

The Register of Attendance at the Chicago Meeting

From the DISTRICT OF COLUMBIA: Frederick C. Lincoln, Washington. From PENNSYLVANIA: Marjorie Ruth Ross, State College. From GEORGIA: Herbert L. Stoddard, Beachton. From TENNESSEE: L. P. Bellah, Edwin B. Johnson, Mr. and Mrs. A. F. Ganier, Nashville. From MINNESOTA: Mr. and Mrs. Frank W. Commons, Minneapolis. From MICHIGAN: Wm. G. Fargo, Jackson; F. W. Rapp, Vicksburg; M. M. Smith, Negaunee; Prof. J. W. Stack, East Lansing; Mr. and Mrs. Edw. R. Ford, Grand Rapids. From INDIANA: Mrs. Wm. C. Gardner, Mrs. Robert Geddes, Mr. and Mrs. S. E. Perkins III, Indianapolis; Mr. and Mrs. Clarence Bretsch, Gary; Patrique Menigue Hogan, Williamsburg; Henry A. Pershing, South Bend. From OHIO: S. Prentiss Baldwin, Herbert W. Brandt, Mr. and Mrs. George Finlay Simmons, Cleveland; Russell Lee Walp, Youngstown; Prof. Lynds Jones, Oberlin. From IOWA: O. P. Allert, McGregor; Prof. Charles Reuben Keyes, Mount Vernon; Weir R. Mills, Pierson; Mr. and Mrs. W. C. Nelson, Des Moines; William Youngworth, T. C. Stephens, Sioux City. From WISCONSIN: O. J. Gromme ,Clarence S. Jung, Mrs. Hiram Towns, Milwaukee; Prof. Warner Taylor, Harold C. Wilson, Madison; Mrs. H. C. Miller, Clarke C. Miller, Racine; Prof. Warren N. Keck, Milton. From ILLINOIS (outside of Chicago): Esther A. Craigmile, Prof. C. W. G. Eifrig, River Forest; Pierce Brodkorb, Mr. and Mrs. Frederick H. Pattee, Mrs. Lester W. Jones, Evanston; Orpheus Moyer Schantz, W. F. Schantz, Nellie J. Barody, Berwyn; Mr. and Mrs. N. S. Rosenblum, Wm. I. Lyon, Mary C. Lyon, Waukegan; Mr. and Mrs. G. W. Mason, Elsie Potter, Zion; J. Wilbur Magann, E. V. Komarck, J. G Hufmeyer, L. Ermil Butler, Clifford Dorsey, Oak Park; Frank H. Letl, Sublette; Mr. and Mrs. C. W. Melcher, Hinsdale; E. Seymoor Burge, Willmette; Gladstone Califf, Deerfield; George E. Hawkins, Lake Zurich; Catherine A. Mitchell, Riverside; A. Sidney Hyde, Urbana; B. F. Berryman, Elgin; Frank G. Grassett, Glencoe; Benj. T. Gault, Glen Ellyn; Mrs. W. E. Trainer, La Grange. From CHICAGO: Dr. Henry C. Cowles, Chreswell J. Hunt, Sherman Coryell, Mrs. A. L. Feser, Mrs. A. J. Cramp, Emeline C. Bates, P. B. Coffin, Mr. and Mrs. Ruthven Deane, Dr. R. M. Strong, Lucy V. Baxter Coffin, Alta R. Cox, Dr. and Mrs. W. D. Richardson, Mrs. H. L. Baldwin, Helena Woltman, Mrs. Charles C. Pickett, Mrs. S. H. Adams, Mrs. Anna M. New, Emeline Lutz, Dr. Alfred Lewy, Mrs. Theron Colton, Mrs. M. D. Munn, Margery Wollett, P. L. Whiting, Belle Wilson, Minnie M. Newton, Earl G. Wright, Mrs. Alfred Lewy, Mrs. A. B. Crosby, Mrs. Frederick W. Blocki, Mrs. Oscar Hebel, Mr. and Mrs. J. Decker, Dorothy Event, Ethel W. Seed, Elizabeth Johnson.

Summary of Attendance. District of Columbia, 1; Georgia, 1; Pennsylvania, 1; Minnesota, 2; Tennessee, 4: Michigan, 6; Ohio, 6; Iowa, 7; Indiana, 8; Wisconsin, 8; Illinois (outside of Chicago), 31; Chicago, 37; Total, 112; Total outside of Chicago, 75. Total attending the banquet, 61.

REPORT OF THE TREASURER FOR 1926

Dayton, Ohio, January 20, 1927.

Receipts for 1926

Cash in bank, January 1, 1926	$ 251.18	
Sustaining Dues	340.00	
Active Dues	502.50	
Associate Dues	405.00	
Subscriptions	39.85	
Contributions	128.35	
Endowment Fund	25.00	
Back numbers of Wilson Bulletin	59.60	
Reprints	2.25	
Total receipts		$1,753.73

Disbursements for 1926

One-half expense of Kansas City meeting	$ 24.12	
Treasurer's office, postage and printing	17.32	
Secretary's office, month by month	141.96	
Verstegen Printing Co., December (1925), March, June, and September Bulletins	1,084.20	
Official stationery	17.50	
Verstegen Printing Co., cover etching	9.62	
Cuts for Bulletin	71.94	
Morningside College, addressing and Editor's expense	16.86	
Verstegen Printing Co., 4,000 mailing envelopes	27.00	
		$1,410.52
Endowment fund		25.00
Cash in bank, January 15, 1927		318.21
Total disbursements		$1,753.73

Ben. J. Blincoe, *Treasurer.*

REPORT OF THE SECRETARY FOR 1926

To the Officers and Members of the Wilson Ornithological Club:

Permit me to submit the following report of the activities of the Secretary's office for the current year to date.

A campaign for new members has been in progress throughout the year. In January a circular letter was sent to the entire membership of the club asking that each person send the Secretary names of prospective members. Only 181 replies were received, an unfortunately low percentage. To these people and to others whose names were secured from other sources, there were mailed 1,340 form letters contaning information about the W. O. C., and an invitation to join. To date 125 new members have been added to the roll; 3 sustaining, 25 active, and 97 associate members. Several new subscriptions to the BULLETIN were secured by the Editor and one by the Secretary.

The new members are distributed by states as follows: Alabama 3, Arkansas 1, California 3, South Carolina 1, Colorado 3, Connecticut 1, North Dakota 3, South Dakota 1, Florida 1, Illinois 19, Indiana 5, Iowa 14, Kansas 5, Kentucky 1, Massachusetts 2, Michigan 12, Minnesota 4, Missouri 1, Nebraska 1, New Hampshire 1, New Jersey 1, New York 8, Ohio 12, Oklahoma 5, Oregon 1, Pennsylvania 4, Tennessee 3, Texas 1, Virginia 1, West Virginia 1, Washington 1, Wisconsin 2, District of Columbia 3.

The officers and others responsible for these new members are: H. K. Gloyd 39, T. C. Stephens 19, Gordon Wilson 5, W. I. Lyon 5, J. W. Stack 4, A. F. Ganier 2, Ben J. Blincoe 1, and from names given to the Secretary by various other members 51.

Our total membership to date numbers 620; honorary 4, sustaining 73, active 216, associate 327. In addition to these the BULLETIN has 38 subscribers and 27 exchanges, according to the Secretary's files.

The total membership distribution by states is here given: Alabama 10, Arkansas 4, California 24, North Carolina 1, South Carolina 5, Colorado 8, Connecticut 5, North Dakota 6, South Dakota 6, Florida 9, Georgia 6, Idaho 1, Illinois 72, Indiana 14, Iowa 68, Kansas 7, Kentucky 21, Louisiana 1, Maine 1, Maryland 3, Massachusetts 14, Michigan 40, Minnesota 8, Mississippi 3, Missouri 17, Nebraska 13, New Hampshire 2, New Jersey 9, New York 33, Ohio 68, Oklahoma 14, Oregon 4, Pennsylvania 18, Tennessee 24, Texas 10, Utah 1, Virginia 5, West Virginia 6, Vermont 3, Washington 2, Wisconsin 19, Wyoming 1, District of Columbia 17. Foreign: Canada 13, Brazil 1, Philippines 1, China 1, Cuba 1.

During the current year our roll has been decreased as follows: deceased 6, resigned 21, dropped for non-payment of dues 6, dropped because whereabouts are unknown 3. (Since the Nebraska Ornithologists' Union ceased to be connected with the W. O. C., 39 of these members have been discontinued).

Analysis of these figures readily indicates that there is much room for extension of efforts in the Middle West and South. It is to be hoped that all members of the organization will take an active interest in strengthening our ranks in these localities.

As shown by the Treasurer's report, a list of all expenses of the Secretary's office has been sent to him each month.

I wish here to express my appreciation of the co-operation of the other officers of the Club in carrying on the campaign for new members. I also wish to acknowledge the assistance given me by my wife, Mrs. Leonora K. Gloyd, without whose help in the clerical work my activities in connection with the membership drive would have been much more limited.

Yours very sincerely,

HOWARD K. GLOYD, *Secretary.*

COPY OF THE TRUST AGREEMENT AS ADOPTED AT THE CHICAGO MEETING AND RE-WRITTEN BY THE COMMITTEE UNDER INSTRUCTION

THIS AGREEMENT, made and entered into this.....day of..... A. D. 1927, by and between the Wilson Ornithologcal Club, a corporation duly organized and existing under and by virtue of the laws of the State of....., having its principal place of business at....., party of the first part, and the Illinois Merchants Trust Company, a corporation duly organized and existing under and by virtue of the laws of the state of Illinois, having its office in Chicago, Ill., as TRUSTEE, party of the second part, *Witnesseth*:

WHEREAS, the said party of the first part is desirous of collecting an Endowment Fund for educational purposes, more especially the promotion and dissemination of ornithological knowledge, the income from which Endowment Fund is to be especially used for the editing, printing, and mailing of the WILSON BULLETIN, a publication issued by the Wilson Ornithologcal Club, and for other educational purposes not inconsistent therewith,

NOW THEREFORE, said party of the first part, for and in consideration of the sum of One Dollar ($1.00) and other valuable considerations, has paid over and delivered to said party of the second part the sum of.....

TO HAVE AND TO HOLD the same upon the uses and trusts for the purposes following, that is to say:

FIRST: To receive and hold the same and to collect the income therefrom; to sell, assign, exchange, encumber, improve and convey the said trust property, or any part thereof; to sell, alter and change the investment thereof from time to time and to collect and receive all dividends, interests, rests, issues, and profit therefrom; to invest and reinvest the principal and proceeds thereof, it being understood and agreed, however, that all investments and all sales, assignments, exchanges or encumbrances are to be made by and with the consent and approval of the Endowment Fund Committee of the Wilson Ornithological Club, which Committee is to consist of three members appointed by the President of the Club, one member for one year, one for two years and one for three years and at the expiration of each respective term aforesaid, a member shall be appointed for three years or until his successor shall be appointed; any vacancy in the Committee being filled likewise for the unexpired term of the member who has vacated and the President shall annually inform the party of the second part as to the personnel of the Committee. Said Trustee shall have full power and authority to bind the trust estate without making itself individually liable, and to perform any and all other acts which it may deem proper for the carrying out of the purposes of this agreement.

SECOND: To charge to the Fund all costs, charges, and expenses of said trust estate and the management thereof, including a fee of ½ of 1 per cent.

per annum on the first $50,000 principal of such fund and ¼ of 1 per cent. on all the principal in excess of $50,000, until and unless the amount of the fee be changed by agreement between said Trustee and the Wilson Ornithological Club as represented by its President and Treasurer, the signature of these two officers to be taken as binding said Wilson Ornithological Club as to said compensation.

THIRD: To pay, use, and expend the net income from said trust estate in installments for the dissemination of ornithological knowledge and information as that purpose shall be accomplished by the editing, printing, and mailing of said WILSON BULLETIN, said installments to be paid quarterly to the Treasurer of the said Wilson Ornithological Club, and the receipt signed by such Treasurer, setting forth that he has received such installment for such purpose, shall be sufficient to relieve said Trustee from responsibility for such installment covered by such receipt. In the event that said Wilson Ornithological Club shall be dissolved, or cease to exist as an actual organization, said Trustee shall pay, use and expend said net income in perpetuity for the dissemination of ornithological knowledge and information through the medium of some publication published or distributed by the successor or successors of the present corporation if such can be determined, or if there be no successor or successors, then by some similar organization having more than a state-wide membership. But before using said income for the support of another publication said Trustee shall use reasonable care and diligence to satisfy itself that said WILSON BULLETIN shall have been definitely and permanently discontinued. Nothing herein shall be construed, however, as limiting or preventing said Wilson Ornithological Club from changing the name of its publication from the WILSON BULLETIN to some other name which said Club shall decide upon, it being expressly understood that this fund is primarily intended for the support of the publication issued by said Wilson Ornithological Club, or by its successor or successors, whether named the WILSON BULLETIN or otherwise.

FOURTH: It is understood and agreed that the Wilson Ornithological Club, its members or other persons, corporations, firms or organizations, with the consent of the Trustee, may from time to time deliver additional funds to the party of the second part, which shall be taken and held upon the same trusts and distributed in the same manner hereinbefore mentioned.

FIFTH: Said party of the second part may resign and discharge itself of and from the trusts hereby created at any time while said Wilson Ornithological Club shall remain in existence, giving thirty (30) days notice before such resignation is to take effect, and in case of a vacancy in the office of Trustee by resignation or otherwise, a successor or successors may be appointed by a resolution duly adopted by a majority of the then officers, councillors and Endowment Fund Committee of said Wilson Ornithological Club, but said new Trustee or Trustees shall be a responsible corporation authorized by law to transact trust functions; or in case a new Trustee shall not be appointed as herein provided within thirty (30) days after a vacancy shall occur, then said party of the second part may apply to any court of original general jurisdiction in said County of..... for the appointment of a new Trustee upon such notice as shall be in accordance with the rules and practice of the court, and such Trustee or Trustees appointed as hereinbefore provided, or by such court, being corporate under state law as above mentioned, shall accept such appointment by an instrument in writing duly signed, and upon the acceptance of such appointment, such Trustee or Trustees

shall thereby and thereupon become and be vested with all the powers, rights, estate, and interests granted to or conferred upon said party of the second part by these presents and charged with all the duties and obligations herein mentioned without any further assurance of conveyance whatsoever. It is further understood and agreed that upon the decision of a majority of the then officers, councillors and Endowment Fund Committee of the said Wilson Ornithological Club this trust agreement may be revoked and rescinded and a new contract entered into without delay to insure the conservation of the Fund.

Sixth: Said Trustee shall render an annual report to the President and members of the Endowment Fund Committee of the Wilson Ornithological Club, showing the amount of the principal of the trust funds, the income thereof received during the past year, the donations received for said fund during the year, and the amount of payments therefrom for all purposes including payments made to the Treasurer of said Club; said report to be made in time to be exhibited at the annual meeting of said Club; said annual reports to be continued to be made to such society or club as may be concerned with the publication of any periodical succeeding the Wilson Bulletin or succeeding the Wilson Ornithological Club, as hereinbefore provided.

Seventh: It is understood and agreed that, except by a vote of at least three-fourths (¾) of the entire membership of the Wilson Ornithological Club, the principal amount of the Fund may not be reduced or diminished other than by unavoidable losses or depreciation.

In Witness Whereof, the said party of the first part has caused these presents to be executed by its President and Secretary and its corporate seal affixed, and said party of the second part, to evidence its acceptance of the trusts hereby created, has caused these presents to be executed by a Vice President, attested by an Assistant Secretary, and its corporate seal to be hereunto affixed, the day and year first above written.

Wilson Ornithological Club

By.....

President

By.....

Secretary

Illinois Merchants Trust Company

By.....

Vice-President

Attest.....

CONSERVATION

By the Editor

The country now seems to be facing an important crisis in the administration of its wild life. The various conservation forces of the country are agreed that the "remnant" of wild life must be saved. But there is a sharp difference of opinion as to the best method of doing it. Dr. W. T. Hornaday is the spokesman for the great unorganized mass of interested people. He is advocating a general reduction in the bag limit and in the open season as the most effective and prompt means of recovery. On the other hand the American Game Protective and Propagation Association is leading in the advocacy of the principle of game refuges and propagation as the all-sufficient remedy. At present there seems to be a deadlock on the proposition, reduction of bag limit versus game refuges.

Since there are excellent arguments in favor of both methods we wonder why the wild life cannot be given the benefit of both. The power to establish game refuges on the scale proposed by the professional conservationalists lies with Congress. The power to bring about a federal reduction in the bag limit seems to rest in the Department of Agriculture, particularly the Biological Survey. The Biological Survey refused to order a reduction in the bag limit, stating that the "Advisory Board" advised against it. The "Advisory Board" seems to be an unofficial group of men who have become prominent in conservation work, whose collective advice is sought by the Biological Survey before any changes can be made in the Regulations under the Migratory Bird Law. The Chairman of this Board is Mr. John B. Burnham, who is also President of the American Game Protective Association. The latter organization is supported and financed by the arms and ammunition manufacturers.

There are now before Congress (unless disposed of before we go to press) two bills which are designed to have a profound effect upon the supply of game birds in the country, and, likewise, upon the sport of hunting. The one is known as the "Migratory Bird Refuge and Marshland Conservation Bill," (technically designated as H.R.7479, S.2607). The other is known as the "Copeland-Merritt Bill," (H.R.10433, S.3580). Most of our readers are likely to be familiar with these bills and their objects. If any are not fully informed we hope that they may become so—in the interest of the welfare of our wild life.

The first of these bills has been before Congress through several sessions, and is variously known as the "Migratory Bird Refuge Bill," the "Public Shooting Grounds Bill," the "Marshland Conservation Bill," etc., etc. It is sponsored by the American Game Protective and Propagation Association, an organization maintained and financially supported, according to the records, by the arms and ammunition manufacturers. It has also won the support of the United States Biological Survey, the National Association of Audubon Societies, and other organizations whose judgments concerning the welfare of our wild life we have, in the past, regarded with greatest confidence. Opposition to this bill has been slow in developing, but is now stronger than ever, and it seems doubtful if the bill will ever pass Congress.

The Copeland-Merritt Bill provides for a general reduction in the federal bag limit on wild fowl, and was presented to Congress only after every possible effort had been made to induce the Biological Survey to make the necessary amendments

in the Regulations under the Migratory Bird Law. This bill is opposed by the American Game Protective Association, the Biological Survey, the Audubon Societies, and almost the same groups as are advocating the Public Shooting Grounds Bill.

We will venture to give here a very brief summary of the literature which we have seen bearing on these two bills. This literature is varied in its nature; some of it is in the form of printed pamphlets, while the rest consists of printed or mimeographed circulars and letters. It is as follows:

1. "Save the Marshlands." This circular is a brief statement in favor of the Migratory Bird Refuge and Marshland Conservation Bill (H.R.7479, S.2607). This bill is a slight modification of the old Bird Refuge and Public Shooting Grounds Bill, which had been before the 67th and 68th Congress. This circular was very widely distributed.

2. "Wasting America's Game Birds." Pubished January 5, 1926. We find in this booklet 61 pages of facts and arguments in support of a reduction in the federal bag limit on game birds. It is signed by a large number of people composing the "National Committee of One Hundred," but we may assume that the guiding mind in its preparation was Dr. W. T. Hornaday. It is a convincing document. Following this showing a bill, known as the Copeland-Merritt Bill (H.R.10433, S.3580), was introduced in Congress. This bill provides for a reasonable reduction in the bag limit on practically all migratory game birds, and is a definite step in the interest of game birds. It is opposed by the powder and ammunition interests, as well as by some recognized conservation authorities. No one has yet been able to point out any selfish motive behind this bill.

3. "Our Migratory Wild Fowl and Present Conditions Affecting Their Abundance." By E. W. Nelson, Chief, U. S. Bureau of Biological Survey. Issued March, 1926. This appears to be a hastily prepared document aiming to show that ducks and geese have not been materially decreased in numbers in recent years; and that such decrease as there may be is attributable to such causes as "extraordinary weather conditions" (page 3), "scanty rainfall," "drainage" (page 17), "losses by disease" (page 14), etc. The importance of a reduction in bag limit is minimized and opposed.

4. "Federal Power and Duck Bag Limits: Facts. A Study." Bulletin No. 6, National Association of Audubon Societies. Issued about May 1, 1926. This is an anonymous article of sixteen pages, issued and very widely circulated by the Audubon Societies as a part of the propaganda in opposition to a reduction in the federal bag limit on wild fowl. In our opinion it is a highly prejudiced argument, and unworthy of the support of the organization which has sponsored it. The mere fact of anonymity immediately raises the question of sincerity. We conclude that the Audubon organization has considerably modified its original platform and purpose.

5. Extension of Remarks of Hon. Fiorello H. La Guardia, of New York, in the House of Representatives on Thursday, April 27, 1926. The speech was in opposition to the Migratory Bird Refuge and Marshland Conservation Bill (H.R.7479, S.2607) on the ground that it created, not sanctuaries, but shooting grounds. It also pointed out the selfish interest of the American Game Protective Association in supporting this bill. On page 5 we find the following quotation

from a letter said to have been written to "one of the ammunition makers" by the President of this Association:

> The sentimentalists led by Doctor Hornaday are demanding cuts in the bag limits and seasons, which if carried to the logical conclusion means the reduction of shooting opportunities to the vanishing point. Of course, if this happens, the sale of firearms and ammunition will be seriously affected.

6. "Save the Marsh Lands." This is the same piece of matter as mentioned above under (1), but in this case sent out from Oshkosh, Wisconsin, in the stamped envelope of the National Campaign Committee, Game Refuge Bill, 2273 Woolworth Building, New York, N. Y. Oshkosh is known to be a center of an industry which harvests native wild duck foods for the market. This industry is dependent upon the sport of wild fowl hunting.

7. A letter dated July 25, 1926, signed by the Chairman and Secretary of the National Committee of One Hundred to Retard the Extermination of American Game Birds and to Oppose Wasteful Killing. This letter is a public protest against Bulletin No. 6 of the Audubon Societies, mentioned above, and remarks that by its "opposition to lower federal bag limits, the National Association of Audubon Societies is recklessly ignoring the spirit in which it was founded and the best traditions of its past." Accompanying this letter is a printed circular entitled, "A Reply to Misleading and Unfair Propaganda Against Reducing the Bag Limit on Ducks."

8. A letter dated August 6, 1926, signed by the officers of the National Committee of One Hundred, accompanied by a printed circular entitled, "A Move for a New Federal Game Act." This is a statement of policy and program, and an appeal for financial aid, by the forces supporting the Copeland-Merritt Bill (H.R.10433).

9. "Who's Who and Why." This is a printed circular distributed on October 12, 1926, from the office of Arthur D. Holthaus, 5350 Waterman Ave., St. Louis, Missouri. This is a reprint of the speech of Hon. Fiorella H. LaGuardia in the House of Representatives. It is very good reading, and perhaps copies of it may still be obtained from the address given above.

10. "New Game Refuge Issue Sharply Defined—No Federal Millions for High Limit Duck Killers." Received November 13, 1926. This is newspaper material sent out by the National Committee of One Hundred. It is controversial, but concludes with the advice that "all states collect and keep all the hunting-license fees of their sportsmen, and expend them within their own boundaries."

11. "Do We Want Federal Super Wardenship?" Received November 23, 1926, from Mr. Holthaus, of St. Louis. This is a reprint of an editorial in the November number of *Forest and Stream*, which is opposed to the Bird Refuge and Marshland Conservation Bill (H.R.7479, S.2607) for various reasons.

12. Speech of Hon. William H. King, of Utah, in the Senate of the United States, Monday, May 24, 1926. From the Congressional Record. Received December 2, 1926. This is a lengthy and instructive document which cannot be summarized here. It is headed as follows: "The Gunmakers' Migratory Bird Bill. The question before us is this: Is Congress willing to establish public shooting grounds upon which the migratory birds, under the protection of the treaty with Canada, may be slaughtered at the command of the shotgun and

shotgun shell manufacturers? There are but two objectives in this bill—to afford shooting grounds to promote the sale of shotgun shells and to increase the bureaucratic power of the Biological Survey, not over the migratory birds, but over the people of the country. The gunmakers must get out of the conservation situation. The way to get them out is to defeat this bill."

13. "The Persecuted Game Birds Demand a Square Deal, but NOT the Passage of the Public-Shooting-Grounds Bill." Issued December 10, 1926, by the Permanent Wild Life Protection Fund.

14. "Sportsmen and Government Officials Discuss Welfare of Wild Fowl." Issued as a news-letter by the Press Service of the Department of Agriculture, January 21, 1927. We learn here that a meeting was held in the United States National Museum on January 29, and presided over by R. W. Dunlap, Assistant Secretary of Agriculture. The question of bag limit was, apparently, the chief subject of discussion. The letter closes with this statement: "The general feeling expressed was against any change in the existing regulations on bag limits, but many felt that the most effective additional protection needed for the birds was a shortening of the open seasons." It goes without saying that, with proper care in the selection of individuals, a meeting may be had which will take any desired action upon any debatable question.

15. "The Unfinished Treaty." By Jack Miner, of Kingsville, Ontario. Received January 27, 1927. This mimeographed article of eleven closely printed pages is, in many respects, the best reading we have seen recently on the subject of bird protection. It contains a merited rebuke to the National Association of Audubon Societies for its part in the issuance of "Bulletin No. 6."

It is a wholesome, whole-hearted plea for the protection of the wild fowl, and the author is emphatically in favor of the reduced bag limits. We notice that this article has been fully reprinted in the February number of the *Illustrated Canadian Forest and Outdoors*, 51 Sparks Street, Ottawa, Canada. This magazine is twenty cents per copy and we hope that a great many will take the trouble to secure a copy and read Jack Miner's plea, under the title, "A Heart to Heart Talk."

16. "Paul G. Redington is Named Chief of Biological Survey." This is the heading of a news-letter issued February 12, 1927, by the Press Service of the Department of Agriculture. Doctor E. W. Nelson has been associated with the Department of Agriculture since 1890, and has been Chief of the Biological Survey since 1916. Beginning in the 70's Dr. Nelson has been an indefatigable explorer and student of the life of the northland. His scientific output has been large and of importance. If he has made an error in directing the Biological Survey in policy on the matter of bag limits, we may believe that it is one of judgment and not of heart. The newly appointed Director of the Survey has been chosen outside the personnel of the latter. We do not know what may be his views on the problem of bag limits. We hope, however, that he may be free from the domination of the Advisory Board, the American Game Protective Association, or any other outside organization.

SUMMER COURSES IN ORNITHOLOGY

It is the desire of the WILSON BULLETIN to use this page in each March issue for the announcement of summer courses in ornithology in the inter-mountain region. We will be glad to have our readers inform us of other courses for inclusion in the future.

In Colorado.

The Colorado State Teachers College regularly conducts Laboratory courses in Natural Sciences at Estes Park. The station is known as Camp Olympus, and is located within 53 miles of the Rocky Mountain National Park.

From June 1-14 a course in Bird Study will be conducted by Dr. E. C. Harrah, of the Colorado State Teachers College. This course yields three quarter hours of credit.

From June 15 to July 16 a course in Bird Study will be conducted by Mr. A. E. Shirling, of the Kansas City Teachers College. This course yields four Quarter hours of credit.

For further information address Dr. John R. Bell, Director, Colorado State Teachers College, Greeley, Colorado.

In Minnesota, the Dakotas, and Wyoming.

Morningside College, Sioux City, Iowa, announces a ten-weeks course in ornithology, with college credit, for the summer of 1927. The first and tenth week will be in residence; the other eight weeks will be in the field. Traveling by motor the class will pass through Minnesota, North Dakota, Montana, Wyoming, Yellowstone Park, and the Black Hills of South Dakota. This extensive trip will afford opportunity to make brief studies of the bird life in the Arctic-Alpine, Hudsonian, Canadian, Transition (Alleghanian and Transition), and the Upper Austral (Carolinian and Upper Sonoran) life zones.

For information as to dates, costs, equipment, etc., address Professor T. C. Stephens, Morningside College, Sioux City, Iowa.

In Michigan.

The Biological Station at Douglas Lake, maintained by the University of Michigan, will offer the usual course in ornithology.

Address Dr. George R. LaRue, Director, Ann Arbor, Michigan.

SALE OF BACK NUMBERS

The entire stock of back numbers of the WILSON BULLETIN up to 1925, must be moved from their present storage quarters before summer. In order to reduce as much as possible the bulk for re-storage the following offer is made, to terminate on June 15, 1927.

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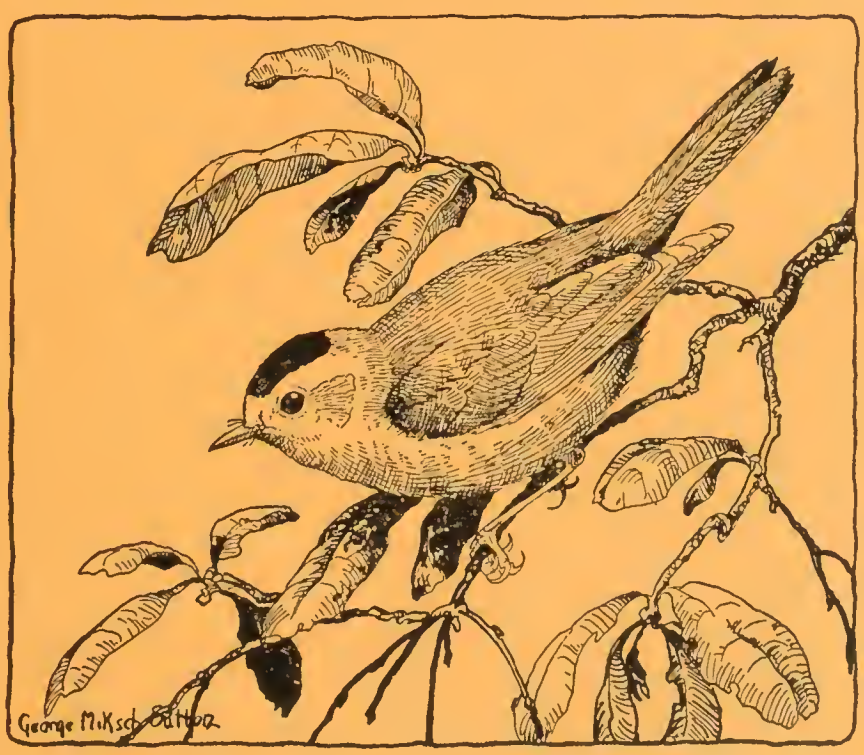

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New subscriptions, changes of address, and applications for membership should be addressed to the Secretary. Personal items, news of events in the scientific world, and other notes suitable for our "Notes Here and There" department may also be addressed to the Secretary.

Claims for lost and undelivered copies of the magazine may be addressed to the Editor.

THE WILSON ORNITHOLOGICAL CLUB

Founded December 3, 1888. Named after Alexander Wilson, the first American ornithologist.

The officers for the current year are:

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The Nebraska Ornithologists' Union.
The Iowa Ornithologists' Union.
The Kentucky Ornithological Society.
The Tennessee Ornithological Society.

(Photograph from U. S. National Museum)

CHER AMI

A Feathered Hero of the World War

JUN 6 1927

THE WILSON BULLETIN

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THE MILITARY USE OF THE HOMING PIGEON

BY FREDERICK C. LINCOLN

[EDITOR'S NOTE. The following article will be read with greater interest if the reader understands the author's opportunities for the study of the homing pigeon. Mr. Lincoln entered the military service of the United States early in 1918, at which time he was Curator of Ornithology in the Colorado Museum of Natural History. He was soon transferred to the Signal Corps and until March, 1919, served as Pigeon Expert, having charge of various lofts, in the Western Military Department, from Washington to southern California.]

The use of birds as bearers of messages has been practiced for many hundreds of years. Pliny, in his Natural History (Book 20, Paragraph 24) states that on occasion the Roman knights took swallows with them when attending the races at Rome. At the conclusion of an event they were stained with the colors of the winning chariot and released, to fly back to their nests and thus carry the news of the victory. On the authority of one Fabius Pictor, he also records what is probably one of the first uses of a bird as a messenger of war. He states (*loc. cit.*) that when a certain Roman garrison was besieged by the Ligurians, swallows were surreptitiously taken from the city to the army advancing to raise the siege and there released to return to the beleaguered town with knotted strings attached to their feet, the number of knots indicating the number of days before relief was to be expected.

The use of pigeons for this purpose also is very ancient, particularly in the Orient from where it was brought to the attention of Europe at the time of the first Crusade, when the Saracens were found to have the birds in regular service for the conveyance of information. So efficient was this pigeon post that the Christian commanders found it expedient to employ falcons to intercept the winged messengers.

Although the flying and racing of pigeons continued publicly and as an amusement, it was not until the Franco-Prussian War of 1870 that pigeons again were of conspicuous service. During the siege of Paris, constant communication with the outside world was maintained by this means. The birds, from two private lofts, were

taken out of the city and over the heads of the besieging army by means of balloons. Microphotographs of military dispatches, private letters, and even newspaper items, were set up, printed upon thin films of collodion, and entrusted to them for their return flight. It is said that in some instances these films carried as much as 30,000 words and a regular tariff was charged for the transmission of messages by pigeon post. Upon receipt, they were enlarged and made legible by photography. Subsequently, the German, French, Belgian, and other European governments established pigeon corps as a part of their military intelligence systems.

In the South African War of 1899-1902, experiments with these birds forms an interesting part of the history of that conflict. The pigeon post at Durban marked the beginning, and scores of messages were carried from one part of the English army to another. Early in the sieges of Ladysmith, Kimberly, and Mafeking regular communication was established from the troops cooped up in the towns to the outside world. It is said that the first message of Sir George White, who conducted the defense of Ladysmith, was carried by pigeon, and this means of liaison was continued until the supply of birds in the city was exhausted.

Coincident with the entrance of the United States into the World War was the appearance before the American public of these birds as messengers of exceptional merit, although it is doubtful if the wonderful work done by the "doves of war" is fully appreciated outside of restricted military circles. Since they have won so many laurels, a brief account of the ideal bird and its ancestry will be of interest.

The homing pigeon may be likened to an amalgam. Credit for its origin belongs mainly to the Belgians, long renowned as fanciers of the first class; and to the English, who have done much toward its perfection. By careful selective breeding, carried on through several centuries, the present fusion has been produced, which, in common with other types of domesticated pigeons, traces its primitive lineage to the Bizet or Rock Pigeon (*Columba livia*) or the closely related *Columba intermedia*. The most immediate ancestry of the modern homer is traced, however, to three distinct types, the English Dragoon, the Smerle, and the Camulet. The Dragoon is of the Carrier type and is noted for its physique; the Smerle, a Belgian bird, that is an apparent relative of the "Owl" group of pigeons, has an inherent "homing instinct"; while the Camulet, a small bird related to the "Tumblers," is noteworthy because of its ability to fly hours at a time. As will be

noted, these prominent characters have been combined to a remarkable degree in the homing pigeons of today.

The Carrier Pigeon is an entirely distinct bird, larger than the homer, with large wattles and ceres, without conspicuous homing ability, and is bred almost entirely for show purposes. Custom and popular vernacular have, however, so linked the term "carrier" with the message-bearing homer, that during the World War, the former name came to have general application. Evidence exists that experiments were once made in an effort to use Carriers, Dragoons, and Horsemen for the transmission of messages, but with only moderate success. At one time the names "Flying Antwerp" and "Antwerp Carrier" were in use, at once suggestive of the attention given to these birds by the Belgians, but the term "Antwerp" has become gradually attached to the homing pigeons that are bred only for show purposes and are never flown.

The general coloration and markings of the racing homer are similar to those of the pigeon of the farmyard or the city streets, as they occur in a variety of color combinations known as red, black, blue-checkers, blue-bars, magpies, and others. Colors generally have no relation to the quality of the birds, but the checkers (particularly the blacks and blues) and the blue-bars are generally preferred for military use because of the reduced visibility when in flight. White homers are sometimes bred but have not proved popular with modern armies.

The typical bird of high quality is a trim, racy bird, in contrast with the more stockily-built squab-breeder. The forehead is well developed, frequently prominent, probably indicative of the superior intelligence that characterizes them, while the eye is exceptionally bright, clear, and expressive. The primaries are obviously of great importance and when the wing is fully spread it should make a straight line and show no interstices between the feathers.

The greatest difficulty experienced by the personnel of the pigeon service during the World War was overcoming a tendency on the part of other branches to look upon pigeons as a joke, and it was necessary to develop a feeling of confidence that the birds would deliver their messages even under the most adverse conditions. Anyone who has had first-hand knowledge of their achievements will, however, entertain a strong conviction regarding their efficiency. A little thought on this subject will suffice to explain the reasons which are well illustrated by the report of a French signal officer and which deals with their performance at the Battle of Verdun. In that major engagement

pigeons established a record of efficiency between 97 and 98 per cent, and frequently were the only means of communication between the "zone of advance" and the rear echelon. The intensity of shell-fire in modern warfare often renders liaison by radio or telephone impossible, while runners are always delayed and visual signals are likely to be obstructed by smoke, dust, or fog. Pigeons, however, are undeterred by such conditions and can and do bring accurate information concerning the situation of the troops in action, within a relatively short space of time.

In the Meuse-Argonne offensive 442 American pigeons were used which delivered a total of 403 messages over distances varying from 20 to 50 kilometers without the loss of a single important dispatch. These birds had received only five days training on account of the hurried notice of impending attack, and in view of the frequent changing of loft positions the performances of certain individuals were nothing short of marvelous.

Unquestionably the most famous of the birds was "Cher Ami," which is credited with the saving of Major Whittlesby's "Lost Battalion." Released with its message on October 21, 1918, at 2:35 P. M., during an intense machine gun and artillery action, it delivered its message 40 kilometers distant in 25 minutes. Examination showed that one leg had been shattered and that the bird's breast had been pierced by a machine gun bullet. The message tube, still intact, was hanging by the ligaments of the injured leg. Although not immediately fatal "Cher Ami" died June 13, 1919, from the effects of the wound, and is now mounted and preserved in the United States National Museum.

Another interesting case is that of a bird known as the "V. C. Pigeon," which is mounted at the Royal United Service Institution, Whitehall, London. This bird was released with a message on October 4, 1917, at 1:50 P. M., and was struck by a bullet that broke one of its legs, drove the message tube into its body and then passed out of the back. In spite of these fatal wounds, and a drenching rain, the bird homed to its loft the following morning. The message probably had lost its usefulness but the record is of exceptional interest in showing the strength of the homing instinct.

Practically all branches of the military service have found need for the pigeons, although their greatest use is with infantry in front line trenches or attack, and with air-craft. The birds that "go over the top" are placed in baskets made to hold 2, 4, or 6 birds usually strapped to the back of the infantryman or cavalryman charged with

their care and who remains close to the officer responsible for the preparation of messages. To prevent injury to the birds through jolting or jostling of the baskets, the birds are fastened in light corslets made of webbing which immobilize their legs and wings, but allow free movement of the head and neck. By means of elastic bands attached to the four corners of the baskets and to the corslets, they are then suspended horizontally in positions that while probably not entirely comfortable, are at least safe. Before releasing pigeons that have been so confined, it is necessary to allow them opportunity to stretch and flap their wings, which may be done while the bird is held in the hand, although a better method is to permit them a short liberty in a basket, box, or such other suitable receptacle as may be at hand. Pigeons accompanying aircraft are not placed in corslets but are put into baskets divided into compartments of one bird each.

The messages are written on thin rice paper and placed in carriers or capsules made of thin aluminum, which are attached to one leg of the bird by means of copper bands. Message carriers strapped across their breasts have been tried but are not so satisfactory, as they interfere to a certain extent with the free movement of the wings. Small capsules inserted in the crop, can be used successfully, but no useful purpose seems to be gained aside from a possible greater assurance against loss, although a message properly inserted in a leg carrier, crimps itself in such a way as to seal the tube and eliminate danger of loss in transit.

In the mind of the ornithologist, the homing instinct of these birds will be immediately associated with the migratory instinct that each spring causes untold thousands of native birds to traverse vast distances of land and sea in a journey north to breeding grounds, and back again in the fall. Basically, the two are the same although our knowledge is most incomplete of the fundamental reasons responsible for this faculty.

For the sake of a parallelism, reference may be made to the data that have rapidly accumulated since the advent of the banding method, and which show innumerable cases of wild birds that have returned not only to the precise summer and winter homes, but also to given points on the route followed in a previous season. Fanciers are not lacking who claim that homing instinct is all "bosh" and that it is the training given by the owners that is responsible for the ability of the pigeons to return to their lofts. In the opinion of the writer such

statements show more or less disregard for the facts and are illustrative only of the conceit of the fancier. There can be no doubt that proper training adds wonderfully to their efficiency, but training starts with a natural fact firmly established, viz., the inherent fondness of the bird for its home and its intense eagerness to get back to it when forcibly removed to a distance. Failure to recognize the sense of direction leaves obstacles that are seemingly unsurmountable when attempting to explain the return of any bird to its nest through dense fog or from long distances at sea. Dr. John B. Watson has* graphically shown that individuals of the Noddy and Sooty Terns, which reach the northern limit of their breeding ranges on Dry Tortugas Islands, Florida, could be taken several hundred miles farther north and when released, would return to the colony over areas that they certainly had never before seen.

Homing instinct, or sense of orientation, is a faculty possessed not only by homing pigeons and migratory birds, but also by many insects, fishes, and mammals. The facility with which experienced hunters and woodsmen locate tiny camps or other points in wooded or mountainous country seems frequently due to an application of this talent.

In the case of the homing pigeon efforts have been made to connect homing instinct with other senses, but the results obtained are inconclusive. Disturbance of the columella, or the semicircular canals of the inner ear, will destroy the homing instinct, but as the particular function of the canals is that of balancing or equilibrating the individual, the results of such experiments can not be considered as establishing the seat of this instinct. Furthermore, such operations, even when performed by the most skilled anatomist, are of the greatest delicacy, and the subsequent failure of the bird to perform properly, might be easily due to other causes resulting from the operation. Similarly, closing the auditory passage with wax would be sure greatly to annoy the bird so treated, causing it to make frequent stops, and finally by developing intense nervous irritation cause exhaustion with attendant disturbances.

In the light of present knowledge the homing instinct of the pigeon should be considered as a specialized form of migration developed and exploited by man through training and selective breeding.

Other factors contribute largely to the effectiveness of the instinct and these are the qualities that respond to systematic training. The

*Watson, John B. "The Behavior of Noddy and Sooty Terns." Pub. No. 103, Carnegie Inst. Wash., Paper VII, pp. 187-225, pls. i-xi, March, 1909.

most important is an acute vision coupled with a wonderful memory. The working of these faculties is readily demonstrable and may be illustrated by citing the case of a bird trained by the writer at March Field, California, and repeatedly flown from the summit of Mt. Rubideau, near Riverside, about nine miles air line from the loft. Upon first toss from this point, the customary circling (known as "finding direction") delayed the bird so that between 20 and 25 minutes were required for the trip. Subsequently flights rapidly cut down the time until upon a few occasions (under favorable wind conditions) the flight was made in nine minutes. This course became so well known to the bird that it was repeatedly released from the outstretched hand, pointed toward March Field, and was observed to fly from sight, apparently without varying a degree from a straight line. The maximum speed developed by this bird (60 miles per hour) is exceptional for—although cases are known of even greater rates—the average flying speed of the Homing Pigeon is more nearly 35 miles per hour.

This retentive memory coupled with other qualities constitutes the foundation upon which is built by good training the efficiency of the bird as a messenger. Effective training of homing pigeons depends largely upon the skill and patience of the pigeoneer, for, although fundamental rules may be prepared for his guidance, ultimate success usually results from his own ability. In fact, the selection of suitable personnel is easily the most important feature in the military use of this bird.

Lofts are almost invariably stocked with young birds. Old birds that already have received training can be trained to home to a new loft, but if of any value at all they will be sure to return to their original loft at the first opportunity. After the birds have become thoroughly accustomed to their new home (usually 4 to 6 days), they are allowed to go out on their own initiative. First liberation is generally permitted in late afternoon before the birds have had their final feeding. The normal young bird will perch on the landing board or loft roof, making short flights therefrom, gradually extending these ventures. They are then called into the loft by a rattle in the hands of the keeper and fed. Civilian fanciers frequently whistle, but a can containing pebbles or grain has been found preferable at military lofts. This practice is continued twice a day until the pigeons become thoroughly familiar with the external appearance of the loft and its surroundings. Six or eight weeks may be spent in these exercise flights before additional training is given. They are then taken in baskets for short distances (under one mile) and released singly and

in groups. Great care must be used in this first training to select days when weather conditions are favorable. They are always released hungry and are fed immediately upon trapping in at the loft.

The distance is gradually increased up to five miles, certain birds always flying from the same direction which—in the case of military birds—is the sector to which they will be assigned for the transmission of messages. After the five-mile flight has been made on a few occasions, the distance can be rapidly increased to 10, 15, 20, 25, 50, and 100 miles. Pigeons used in warfare are rarely called upon to fly distances in excess of 50 miles and the great majority of the messages brought in will be from distances under 20 miles. Well-trained birds are entirely reliable for such distances. They are, however, capable of much longer flights, and among racing pigeon clubs the 500-mile race is always a special feature. On the Pacific coast a regular course is between San Francisco, California, and Seattle, Washington, the winning bird making the flight in a single day. A prize hen owned by the U. S. Department of Agriculture made the 580-mile flight from Chicago, Illinois, to her loft at Beltsville, Maryland, in 15 hours and 40 minutes. The fastest time made by a railroad train between Washington, D. C., and Chicago is 19 hours.

Although the homing pigeon is a diurnal bird, some interesting work in night flying has been done. The French have been the pioneers in these experiments and some wonderful results have been recorded. Birds trained for such work have been tossed on dark nights as late at 10:00 P. M. at distances varying from 18 to 40 miles and have returned in good time. American pigeons in the Canal Zone also have shown exceptional results in flying at night, but from a practical point of view, no reliability can be placed on them when flown after dark. Special training is, of course, necessary, and the lofts must be equipped with special lighting arrangements, while it is questionable, because of the other means of communication that are always available when darkness descends, whether the attempt is really worth the effort.

The reputation of the homer is, however, well established and its usefulness as a carrier of war dispatches insures it a prominent place among the communication methods that will be employed by the armies of the future.

U. S. Biological Survey,
Washington, D. C.

NOTES ON THE WINTERING HABITS OF THE WHITE-THROATED SPARROW (*Zonotrichia albicollis*)

BY H. C. GOOD AND T. R. ADKINS

One of the most interesting, common, and friendly birds in the southland in winter is the White-throated Sparrow. Although not very well known to the people, it is friendly and gives a very good opportunity for the observation of its habits to be made during the winter months where it is a winter resident. This paper is the result of two winters' observations and notes made during 1923-24. During the winter of 1925-26 the junior author made copious notes from his observations, from the time of their arrival in the fall of the year till their departure in the following spring.

Auburn is well situated for the study of this bird, as it is located at the end of the Piedmont Foothills region with grassy fields and mixed forests. A great number of small creeks permeate this region, resulting in a considerable undergrowth of bushes and vines in which the White-throated Sparrow spends most of its existence during the winter months. It is also in this type of locality that most of the birds feed upon various types of food.

Although this sparrow is a regular winter resident in this section of the country, it varies to a great extent year after year. During the winter of 1923-24, this bird, although present, was quite rare, and not commonly found in the city limits. Its time was primarily restricted to the protected wooded areas. During the winter of 1924-25, the best observations were made, but the notes were not as fully completed as during the last year. During the 1924-25 season the birds were everywhere abundant, especially in the town. In the early morning and late afternoons these birds were commonly found feeding in the yards upon seeds and other types of food that they were able to pick up. They, at all times, appeared to be very friendly and one could observe them very closely before the birds would take flight. It was during this period that forty birds were captured and banded.

During the winter of 1925-26, which was a very severe winter here in the south, there were but relatively few birds present. An intensive study was made to verify the observations of the previous years, with especial reference to the song, associates, general habits, and food. The greater amount of these observations were made by the junior author.

Although, as a general rule, birds do not sing during the winter season, the white-throat is the best songster in the winter, its sweet,

yet plaintive song coming from the low bushes in early morning or afternoon. There are two call notes used by this sparrow, the first being low, tranquil, yet musical and suggests pity to the ear of the listener. It is very easily distinguished from all of the other birds and also from the second call note which ends in a sharp metallic chirp. This latter seems to donate warning to the other birds and also scolding. It is not as common as the former and at times not easily made out. The true song of this sparrow is the same as that given during the breeding and nesting season in the northern states. It is very sweet and plaintive. Although it is not a loud song, it is very vibrant and carries a remarkably long distance. There are also two types of songs present. The first one starts on a low pitch, the succeeding notes being very high and tremulous. The flute-like quality of this second pitch gradually becomes fainter and fainter, making one believe that the bird is traveling away at a very rapid speed. The other song usually starts at a higher pitch, the succeeding notes being lower. As its song is quite easily imitated, one can very often whistle to a bird that is singing, and in that way cause it to answer repeatedly, and at times, the bird can be attracted to the one whistling. This is especially true if one remains concealed as much as possible and remains motionless. This has often been done.

The time of the day in which the birds sing most frequently is in the morning up to nine o'clock, especially in the spring. During the shorter days of winter, the song is not so common, but may be heard at almost any time of the day. It also sings to a considerable extent in the latter part of the day, resting during the mid-day hours.

Study of the White-throated Sparrow in thickets will acquaint the observer with the bird's associates. The Towhee or Chewink (*Pipilo erythropthalmus*) will always be found accompanying this species. Other birds found in similar places were: the Song Sparrow (*Melospiza melodia*), Cardinal (*Cardinalis cardinalis*), Carolina Wren (*Thryothorus ludovicianus*), Brown Thrasher (*Toxostoma rufum*), Slate-colored Junco (*Junco hyemalis*), American Redstart (*Setophaga ruticilla*), Ruby-crowned Kinglet (*Regulus calendula*), Louisiana Water-Thrush (*Seiurus motacilla*), Myrtle Warbler (*Dendroica coronata*), Hooded Warbler (*Wilsonia citrina*), Black and White Warbler (*Mniotilta varia*), Summer Tanager (*Piranga rubra*), Wood Thrush (*Hylocichla mustelina*), Carolina Chickadee (*Penthestes carolinensis*), Tufted Titmouse (*Baeolophus bicolor*), Brown Creeper (*Certhia familiaris americana*). The Towhee is the White-throated Sparrow's closest friend. It is found roosting along with the White-throated Sparow in

the underbrush of the thickets. The general outline of the Towhee is very similar to that of the White-throated Sparrow; a profile view of the two birds as seen at twilight, in the clearing of the thicket, shows this very plainly. The two birds as seen under these conditions appear to be the same color throughout and body carriage and size serve as the only method of discrimination.

Just before sunset on the afternoon of October 11, the Towhee's ringing call note was heard some distance up the stream from where I was watching the different migratory forms as they were engaged in catching insects along the banks of the stream, indicating that the day was almost spent. I began immediately to strain my ears and eyes for the purpose of discovering the Towhee's companions. Only a few minutes passed before the Towhee made its appearance among the grape vines which offered a plain view in the clearing of the thicket. A moment later the Towhee took flight and almost immediately there were eight or ten White-throated Sparrows occupying the entanglement. The Towhee's call note was again heard farther down the stream and almost instantly the visitors followed their host to the denser section of the swamp down the stream, taking up their excitive note upon reaching their destination.

During the winter season of 1924-25, trips were made at night in order to catch birds for banding purposes. In a number of heaps of cut pine branches, a great number of birds were found spending the night for protection. In these heaps associated with the White-throated Sparrows were the following birds closely associated: Chipping Sparrows (*Spizella passerina*), Vesper Sparrows (*Pooecetes gramineus*), Slate-colored Juncos (*Junco hyemalis*), and the American Pipit (*Anthus rubescens*) in less numbers. This was the only time in which the Pipits and white-throats were found together.

Five White-throated Sparrows were taken during the winter as follows: November 30, December 14, December 31, January 30, February 17. Analysis of these stomachs showed that the largest per cent of the bird's food consisted of insects of different species; the beetles seeming to be dominant and the remainder of the contents consisted of weed seeds mostly, with some small pieces of plant buds.

Two Slate-colored Juncos were taken January 30 and analysis of these stomachs showed that nearly the total food of these birds consisted of weed seeds. One Brown Thrasher was taken January 30 and an analysis of the stomach contents showed that the food consisted of about one-third weed seeds to two-thirds insects.

There were no particles of fruit found in any of the stomachs. Cotton was planted in an adjacent field which held its foliage until late in the season offering an ideal place for hibernation of boll weevils in the thicket, nevertheless none of these insects were found in any of the stomachs taken. It was found that the White-throated Sparrow consumed most of its food before 10:00 A. M. each day as the per cent of the daily ration indicated when taken at different times of the day.

Migration. This bird is a winter resident in this part of the country and very careful observations are required to determine the date of its first arrival. The birds that come first are usually few in number and the recognition of its song is almost more important than sight, due to the secretive habits of the birds when they first come south. Later, as the numbers increase, they seem to lose their timidity and are easily observable. A considerable amount of time is required in the field in order to detect the first arrival.

During the season of 1924-25, the first birds arrived on October 14, gradually increasing in numbers until by November 15, there were a great number present. These stayed through the mild winter until the middle part of April. The last record of a White-throated Sparrow was on April 25, 1925.

During the season of 1925-26, the first bird observed was on October 5, 1925, with the numbers gradually increasing. There were never many birds present due to the severe winter and most of them kept in the protected woods, venturing out only when the temperature climbed and the prospects were for a bright day. The winter quota of birds was reached about November, and the birds started to leave toward the end of April, the last one being heard on May 7. In general, the time of arrival and departure is very close year after year, the temperature condition governing the dates and also the number of birds in a locality.

Alabama Polytechnic Institute,
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HOME LIFE OF THE BLACK TERN IN WISCONSIN

BY PAUL W. HOFFMAN

Another season of studying the Black Tern (*Clidonias nigra surinamensis*) came to a close on our last trip to the nearest colony of these birds at Big Muskego Lake, Waukesha County, Wisconsin, on July 24, 1926. Early in June Mr. J. Jeske, Assistant Artist of the Milwaukee Public Museum, Mr. R. Doughty, bird lover and photogra-

pher, my wife and myself, made preparations for week-end trips to obtain better pictures and more interesting facts concerning the home life of the Black Tern, and to do some banding. Our first trip was taken on June 6, a day of continuous squalls; but masses of black clouds, accompanied by high winds, and rain with thunder and lightning, did not discourage our happy crew as we poled our boats through the marsh taking an occasional soaking. We located the nest of a Black Tern containing three eggs, and anchored the boats about ten feet distant. A number of birds were hovering and circling about overhead screaming their loudest at this intrusion. Neither parent bird was bold enough to descend to the nest. Just then came a shower, and as the first drops of rain pattered down, there was the faithful parent bird on the nest, squatting down firmly with wings slightly open to effectually shed the water. Moving about in our boats to sponge out the water, and covering ourselves with newspapers failed to frighten the little mother facing the rain as it beat down upon her. The rain had barely ceased when up flew this timid little guardian.

Contrary to this on the very next trip I found a very bold defender of a nest containing two eggs and one newly hatched young. Rounding a small bog of wild rice, I came upon this nest which was ideally located for a picture. My companions and I were considerably surprised at the boldness of this mother bird. We had just anchored the boat and focused on the nest eight feet distant when down came the bird screaming and much agitated. Her object it seemed was to drive the youngster away from the nest into hiding. In this she succeeded, although she kept up an almost rythmic performance of hovering, dropping to the nest, tucking in her wings, then springing into the air to circle overhead and repeat the performance. To really test her boldness we moved the boat nearer and anchored again so that the lens of the Graflex was not more than four feet from the nest. This did not in any way deter the tern from coming down to the nest every few seconds, in fact she calmed down to the extent of settling down on the eggs for short intervals, her screaming also diminishing to a throaty scolding. It was then that the young wanderer came back to the nest to snuggle down under his mother.

In my experience the first instinct of the parent bird when approached, is to shoo the little ones from the nest into hiding. One can almost definitely say, even before locating the nest, whether it contains all eggs or one or more young birds, by the cries of the hovering birds. It is then in seeking the young birds, that one must

hurry through and around the bogs in order to arrive before the complete disappearance of the youngsters which themselves are so distracted they will climb over the edge of the nest and take any direction from it, paddling along hurriedly over lily pads, and dodging through the rushes. The parent birds swoop down then and give the escaping youngsters quite a sharp peck at the back of the head, which hurries them into hiding. Immediately upon entering the edge of a bog, or the merest semblance of one, the little one will stop suddenly and rest immovable. If one now anchors his boat remaining in sight of the nest, but a reasonable distance away, a young bird (a week old or less) will invariably return to the nest in a short time. All young Black Terns until they are able to fly are easily overtaken with a row boat. A dip net, oval in shape, eight inches long, six inches wide, and four inches deep, attached to a pole thirty inches long, is a very convenient accessory for the purpose of lifting them out of the water for banding. Young terns on the water cannot swim faster than a person can row, and as they do not dive their capture becomes an easy task when it occurs in open water.

On June 20 we found quite a number of young Pied-billed Grebes swimming about, but when we tried to approach them they immediately dived and swam under water. We eventually succeeded in capturing two of them, and took some pictures. Releasing them we decided to watch their antics and accordingly set the prow of the boat into a convenient bog. We had hardly settled when an excited tern, who saw us moving about spied the young grebe and swooped down to drive it away from us. Is it possible that this tern mistook the grebe for a young tern?

During the hottest part of the day Black Terns are rather inactive, at which time they frequently come down to their nests, to sit or stand over the eggs, shading them from the sun. A few birds, perhaps the males, are seen flying about in search of food.

On June 27 we observed a nest with two newly hatched young and one pipped egg. Returning to the nest one hour and forty minutes later we saw that the third egg had hatched, the nest now containing three downy young, brown in color with black spots on their backs, white faces with beady eyes, black bills and webbed feet. All egg shells had been promptly removed and I can truly say, of the hundreds of Black Tern nests observed, empty or containing young, I have never seen egg shells, or other foreign matter in or about them.

Milwaukee, Wisconsin.

SOME OBSERVATIONS IN A GREEN HERON COLONY

(*Butorides virescens*)

BY BESSIE PRICE REED

This report has to do with some observations made in a Green Heron colony during the seasons of 1921 and 1922. The colony was located in a willow marsh near the north shore of the eastern section of the dam at Lakeview, Kansas. The growth of willows was very dense; individual bushes occasionally reached a height of twenty-five feet and grew in water varying from two to four feet in depth. The marsh was about four hundred feet long by one hundred feet wide at the widest point and roughly oval in outline, approaching within thirty feet of the main shore line at the nearest point.

Early in the spring of 1921 a number of adult birds were observed in this vicinity. There was no subsequent opportunity for observation until July 6 when, by wading in among the willows, it was found that there were more than a dozen nests at heights above the water varying from three to twenty feet. Three of these were empty though evidently recently occupied.

On casual observation the nests appeared to be quite loosely constructed. It was often possible to see the eggs from below. Usually they were built in an approximately upright fork. In no case did the fork have more than two branches. The nests were invariably composed of bare willow twigs about eight to ten inches long, so closely interlaced that it required considerable effort to pull apart an old deserted nest. In general they were in the form of an inverted cone, the top being almost flat. So solidly were they constructed that remains of old nests could be found the following season. There was never any accumulation of debris, food remains, or excreta in the nests so they were very clean even after several weeks of occupancy.

Several nests, when first found, contained eggs varying in number from one to five. But in several nests were young birds, some evidently only a few hours old while others were able to clamber awkwardly onto the adjoining branches and sometimes traveled quite rapidly from bush to bush so that pursuit through the tangled thicket was very exciting. Not infrequently the young birds were able to escape entirely the combined efforts of two people to capture and band them. When placed in the water those only three or four days old were able to swim quite well. Very often they were observed.

when evidently only a few days old, perched on branches several feet from the nests. Several broods were found that were not accessible for capture and banding. When captured the very young birds usually made but little struggle for freedom. The older ones, however, scrambled away at the first opportunity and took to the water, swimming rapidly until they reached a willow where they would scramble awkwardly to the very top. With no effort at all they would move from one willow to another, climbing ever upwards until out of reach. All, except the newly hatched ones, stretched their necks at full length either moving their heads in different directions or remaining motionless. A quick motion toward them brought a darting, snapping re-

Willow Marsh, Site of the Green Heron Colony

sponse. The newly hatched ones would feebly lift their heads, then sprawl about helpless in the nests.

One young heron when handled began to stretch its neck full length and then withdraw it. It did this repeatedly until a dragonfly larva was regurgitated. On one occasion when trying to take a picture of some nestlings that were known to be less than two weeks old, one finger was thrust between the legs of one of the birds in an attempt to lift it off the perch. The bird resisted the upward pressure by holding tightly to a branch. Suddenly it regurgitated a pellet about an inch long by three-quarters of an inch thick. On examination this pellet was found to consist of the remains of grasshoppers and other insects.

The colony was subsequently visited on July 12, 19, and 30. One nest containing four eggs on July 12 was observed on the 19th to con-

tain three nestlings. The other egg was not found. These three young birds were still in the nest on July 30, when they were caught and banded. At this time they were able to fly for a short distance but all were safely returned to branches near the nest. No other broods were in evidence anywhere in the marsh at this time.

A careful survey of the marsh during the season of 1922 gave a total of thirteen nests. On June 8 nest No. 1 had four very young birds. At No. 2 there were three young climbing about. Nests Nos. 3 and 4 while new were empty: evidently the broods had already gone. Nest No. 5 had two eggs. Nest No. 6 revealed three newly hatched birds and one egg. In No. 7 the young were three or four days old while No. 8 had one egg and three nestlings scarcely dry. No. 9 had only eggs.

On June 17 the birds from nests Nos. 1, 2, 5, and 7 were gone. Nests Nos. 6 and 8 showed the one egg hatched. In the latter nest the other three birds, already hatched on June 8, were high in the tree. Nest No. 9 had five young. On this same date two new nests were discovered. No. 10 contained two eggs: No. 11 was twenty feet above the water and inaccessible. Below this nest on July 8 one egg was found. On this date two more new nests were discovered. No. 12 had three eggs while No. 13, likewise twenty feet above the water, had at least that many. On July 15 this nest contained one nestling.

Accurate count showed that twenty-seven birds were reared that season and all evidence indicated that others of which no count was tabulated had left nests earlier in the season.

Practically every brood showed distinct differences in age among the nestlings. This was due, no doubt, to the habit of the adults beginning incubation before the complete set of eggs had been deposited. Those nests containing one egg along with nestlings showed the last one hatched much smaller than the rest. This difference was also manifested by the reactions of the young while still in the nest. The degree of response varying with the age of the bird.

The plumage of the newly hatched birds was soft, downy and of a dull grayish green color. In a few days darker hued, glossy feathers began to appear on the wings and neck. By the time the young were ready to leave the nest the scapular plumes had become still darker and all the soft down had been replaced by a coat, not quite so luxuriant as that of the adult bird but very similar in every other respect

Green Heron Nest and Eggs

Nestlings one day old

Nestlings three to four days old

Young about ten days old

Nestling too young to perch well

Banded young, ten days old

so far as superficial appearance was concerned, except for the absence of the crest.

The feet, legs, and bill were greenish yellow from the beginning and did not change greatly during the period of observation.

During these visits to the marsh not many adult birds were seen. At no time were there ever more than three or four. These would circle about the thicket in a rather excited manner or perch in some nearby willow and watch proceedings, uttering now and then their harsh squawks. Frequently one of them was seen slipping back to its nest after the intruders had departed. Occasionally upon approaching the marsh one or two adults would leave the thicket making more or less fuss as they flew about.

Within or near the heron colony there were ten nests of the Red-winged Blackbird, one Kingbird, and one Mourning Dove nest. The first nest of the Kingbird was destroyed but the second served as home for three young. The so-called water moccasins seemed to be quite common. Not infrequently one would be seen coiled up in a tree near a nest. On one occasion a snake was seen crawling out of the nest of a Red-winged Blackbird.

In the early part of the season of 1923, about the middle of June, the marsh was again inspected. No adult birds were in evidence and no nests were found. Absence from the region prevented further study but reliable reports furnished the information that no herons used the willow thicket that season. An investigation in the fall confirmed this report since no old nests were found. The thicket was less dense, a number of willows having died, but still there remained enough to afford sufficient cover. The marsh was in the limits of the Lakeview Club grounds so no shooting was allowed except in open season in the fall and then the privileges were limited to members only. In fact the grounds were at all times carefully patroled; even these investigations could not be undertaken without a permit. It is not possible to draw conclusions as to the reasons for this desertion of a rookery safely occupied during the last two seasons.

In the season of 1921 eleven nestlings were banded with U. S. Biological Survey bands; in 1922 twelve were so banded. There were never any returns from any of these.

Dallas, Texas.

(Photograph by Chas. G. Spiker)

LEROY TITUS WEEKS

AUTOBIOGRAPHY OF LEROY TITUS WEEKS

[Editor's Note. Dr. Weeks was one of the most unique men we have ever known. Among our mid-western bird men he was an outstanding personality. He was an individualist in his personal conduct. In production his field was poetry; but in human associations he was an ornithologist —a nature lover. His artistic nature was expressed in poetry; his scientific nature was rigorously developed in the care and accuracy of his field studies. About a year ago we asked Dr. Weeks to write a short account of his life. The following sketch was prepared under date of June 1, 1926. It is a frank and open story, without any attempt at feigned humility. It is written with what we might call the simplicity of greatness.]

I was born at Mount Vernon, Iowa, February 1, 1854, son of Lucas A. Weeks and Elizabeth Jane Rigby. Grandfather, Barak Weeks, was captain of militia in the War of 1812-14, and was ordered to the front with his company. He was an expert swordsman. As far back as we have any record no Weeks family has ever remained in one locality any longer than to rear a family that needed more room. Great-grandfather John Weeks was born in western New York; Grandfather Weeks, in western Pennsylvania; Father, in Ohio; and I, in Iowa. When I was eighteen, true to the Weeks habit Father moved with his wife and seven children to northwest Kansas.

I returned to Iowa that fall, and remained here, entering Cornell College in the second year of the Preparatory Department—one month after my twenty-first birthday. I had to earn every penny that went into my education and was compelled to remain out of school at times, once for two years, to replenish my pocket-book. Hence I was twenty-nine when I graduated in 1883. I was the only member of that class to earn his own way, and the only one to wear the Phi Beta Kappa key. To earn money I taught in the winter times, or worked on farms in the summer. It went against my stomach to canvass for subscription books or nursery stock, though one of my classmates earned three hundred dollars one summer by canvassing, while I worked for a dollar a day. But I clothed myself economically, and "batched." I started in one fall with sixty-three dollars and thirty-five cents, and went through the year. The College burned only wood in those days, and I was always sawing wood at fifty cents a cord. Some Saturdays I sawed two cords. However, the wood for the classrooms was sawed into only two pieces.

When I finished my Sophomore year I made up my mind that I needed experience in social matters, and remained out of school two whole years. When I returned I had good clothes, and money enough for boarding. The classmates who remembered the smell of cookery on my garments had graduated. Then I plunged. The first year I made it a law not to go to any public function without a girl, and

never to take the same one twice. I kept that up until I had taken out fourteen different girls. I wanted a baptism of social life.

When we went to northwest Kansas in 1872 we found buffalos, prairie dogs, rattlesnakes burrowing owls, and antelopes: and once in a while an animal which I called a pine marten, whose fur was rich lemon-yellow, except for a black-tipped tail. It had the boldness of the weasel. One of them would get into a prairie dog town and put the whole colony on the run. I ran one into a dog hole, and it came right up between my feet, and looked at me with the bold curiosity of the weasel. I got a trap, ran him into a hole, held to the end of the chain, and had him in less than ten seconds. That summer, 1872, a buffalo came right down the main street in Osborne, and a man shot him from the hotel veranda. I enjoyed a steak from the T-bone region. My two brothers and I went buffalo hunting on the Fourth of July that year, and my oldest brother killed a big bull.

After my graduation I spent two years in Kansas as School Superintendent. In October, no, September of 1885, I was elected to the Chair of Latin in Wilbur College, Lewiston, Idaho, and went out there. I was so dissatisfied with the institution, which I called a "play-school in a fence corner," that I jumped at a chance to go out to Grangeville, seventy-five miles by stage, and do missionary work. After one year I was elected Principal of the Columbia River Academy, at Grangeville, a position I held for two years; after which I returned to Osborne, Kansas, as Superintendent of Schools. From here I went to Centralia, about sixty miles west of Atchison. The next year I went to Texarkana, Arkansas, to be head of the Inter-state College. While there I was appointed to be Acting President of Little Rock University, a position I resigned to enter the Methodist ministry. In 1894 I was sent to Beebe, thirty-three miles north of Little Rock—and the following year to Texarkana, as pastor of the First M. E. Church. In June, 1895.* I entered the Graduate College of the University of Chicago, for the study of English, and remained there until the spring of 1897. At this time I became Professor of English at Southwestern College, Winfield, Kansas, where I remained until 1905, then accepting the same position in McKendree College, Lebanon, Illinois. At the end of the first year I was ". . . retired," because, as stated by a written statement signed by all five members of the "Committee on Faculty and Salaries," I was guilty of attending the theatres in St. Louis, which indicated that I "was not in harmony with the doctrine and rules of the M. E. Church, which precluded his holding a position in said

*There is apparently an error in dates here.—Ed.

College." I then withdrew from both the ministry and membership in the M. E. Church, in which I was a "minister in good standing." I set myself at once to reading up on the various Protestant communions, and, after a year, I entered the Episcopal Church, being confirmed with my first wife by Bishop Osborne, in East St. Louis.

In February, 1911, I began training in Trinity Cathedral, Davenport, for Holy Orders, and was later sent to Newton, Iowa, to take charge of an Episcopal Mission, of sixteen communicants. After two years here I was married to Miss Ada Pauline Kuhn, at Evanston, Illinois. I hoped to get a parish in the Diocese of Chicago; but, after vain efforts, I accepted the Trinity parish at Emmettsburg, Iowa, in October, 1915, and remained here for the next ten years, until going to Tabor College.

While the conditions were not strongly frontier when I was born, yet I was brought up under pioneer conditions, because my parents were pioneers, who were born of pioneers, who were in turn born of pioneers, until it was bred in the bone. It thus happened that the pioneer characteristics, the habit of relying on one's self for everything, was bred into me. My Grandfather Weeks had his own tools for blacksmithing, his own tools for building, i. e., the shaving horse, broad axe, adz, etc. My own Father could do more things in wood with his axe alone than men now do with a chest of tools—I mean men who are not professional wood-workers. Father had his own shoemaker's bench, and his own sadler clamps for mending harness. Grandmother Weeks had her own spinning-wheel and loom. I am putting down these facts in order to say that I grew up unconsciously with the habit of making whatever I wanted, without asking help of anybody. If I wanted a yoke for breaking steers I made it without so much as a thought of saying anything about it to anybody. If I wanted a sled I made it, if I wanted a bow and arrow I made them. I even tried to make a pair of skates.

My Grandmother laughed till tears came to her eyes when she found me putting a side pocket in my wamus, when I was eight years old.

Mother died on April 11, 1861, the day the flag was hauled down on Fort Sumter; and for the next two years and a half I lived with Grandmother. Father was in business in Mount Vernon, Iowa, and was broken up during the financial crash of 1857. He trusted everybody, and was a poor collector. We then moved down onto the farm with Grandfather and Grandmother Weeks. Grandmother took a fancy to me right off, and began teaching me to read; so that when I entered

the country school at six I began with the class in McGuffey's old Third Reader. While I was reading in this reader McGuffey brought out his "new" series, putting many lessons of the old Third into the new Fourth, so that when I was sent on I went into the new Fifth, where I was reading in a class of pupils of eighteen while I was but eight.

Grandmother Weeks was one of the tenderest, gentlest souls I ever knew; while Grandfather was cruel, brutal. You must know that in those days nearly all roads ran catawampus across the prairies, where everybody's cattle, horses, and sheep grazed together. Grandfather never came near enough with his wagon to be able to hit an animal with his whip that he did not give it a welt, and then laugh when the thing jumped. He always carried a "blacksnake" whip. The only way he knew of to play with me was to get me across his knee and spank me, laughing to see me squirm. I always tried to take it in fun, but it was a hard job. Wherever he be now, he may take it from me that I don't like him.

I ought to have said back there that, when I intimated to the head professor of English at the University of Chicago that I was about ready to be examined for my doctor's degree, he told me flatly that the University did not wish to give the degree to men of my age, forty-three. So I accepted the chair of English at Southwestern College and set about looking for an institution that would grant the degree to men of my age. The University of Denver took me on, and I received my degree there in 1903. I had to do, besides the two and a half years of residence at Chicago, two more years *in absentia*. I had to be in Denver for my examinations in my two minors—German and ornithology. They required me to read over six thousand pages of German, and the examination in that minor covered six solid days. Ornithology was, of course, play. At the University of Chicago I had to my credit twenty-two majors; besides I had taken a course in the History of Painting at the Chicago Art Institute, thinking that a professor of English should know something about Art. Among my majors was one course in philosophy, under Dean Tufts, because I believed that I must be able to include in my teaching something of the philosophy of literature. To be able to say something to my students on the parallel tendencies in both literature and art, I bought a hundred dollars worth of reproductions of famous paintings. With these I illustrate to my students the fact that Classicism and Romanticism always affected all lines of artistic production, whether in literature or art.

NOTES ON THE BIRDS OF DOUGLAS COUNTY, KANSAS

BY JEAN LINSDALE AND E. RAYMOND HALL

The aim of this paper is to place on record our observations that, excepting those obtainable from specimens collected, might otherwise not be available. The paper deals chiefly with occurrence and is wholly limited to birds collected and observed by us in Douglas County, Kansas, mainly, between September, 1919, and May, 1923. A few observations made after this time are included but all such are indicated by date. A total of 258 field-trips was made. These cover 231 separate days. Records were also kept of birds seen about the authors' homes in Lawrence. Nearly all of the northern part of the country was worked. Most work was done in spring and fall and least in summer. Of the 201 identifications 164 are based on specimens collected. All these specimens, numbering more than one thousand, are now in the collection of the University of Kansas Museum of Natural History at Lawrence.

The city of Lawrence is located in the north-central part of Douglas County on the Kansas River. Most of the work here reported on was done south, east and west of, and within ten miles of, Lawrence. The Kansas River, whose valley is three to six miles wide, forms most of the northern boundary of the county and is joined, eight miles south of Lawrence, by the Wakarusa River. The latter is a smaller stream that passes three miles south of Lawrence and runs east by north. Its valley widens out near the mouth and thus, there is much flat bottom land south and east of Lawrence as well as along the Kansas River. Some temporary marshes exist in the Wakarusa River Valley in rainy seasons. Probably less than half the upland, both west of Lawrence and north of the Kansas River, is in cultivation. Much of the remainder is pasture but several patches of the original prairie remain. This part of the area is rolling and cut by numerous ravines and small creeks. South of the Wakarusa River there is a range of hills, about 250 feet high, with about one-fourth their surface covered by brushy timber. Cattle are pastured on much of this hill land. Although the above mentioned divisions of the area intergrade, their boundaries are fairly well marked.

The direct course taken by the Kansas River to its connection, thirty miles away, with the Missouri River, helps to bring a large bird population to this vicinity. Many birds that occur in the area in winter are found regularly only along the Kansas River. Originally, game birds were abundant along this stream but hunting has greatly reduced their numbers. The numerous sand bars of the river, although

not as much frequented by shore birds as are the mud flats, nearly always have some birds in the proper seasons. The vertical cut-banks are used as nesting places by kingfishers and large colonies of swallows.

The Wakarusa River and small creeks also have steep banks but are so small that, aside from a few ducks, herons, and Spotted Sandpipers, most of the water birds found on them are stragglers.

Many water birds occur at Lake View which is five miles northwest of Lawrence. Ducks and sandpipers are especially common there. This ox-bow lake, formed by a change in the course of the Kansas River, is about one and one-half miles long and is of the same width as the river, that is, 75 to 200 yards. Its depth is less than six feet and the shore is flat and usually covered with mud. One end of the lake has so grown up with vegetation that it provides a good shelter for marsh loving birds. Due to the heavy shooting that takes place almost daily on the lake in fall, fewer birds stop there then than in spring.

The marshy ground on the Haskell Institute farm, just south of Lawrence, is, in rainy seasons, a good feeding ground for all kinds of marsh frequenting birds. Water stands in the drainage ditches and on the low ground that is not properly drained. Here, a heavy growth of native grass furnishes hiding places for such birds as ducks, rails, snipe, bitterns, marsh wrens, and several species of sparrows. These, in turn, attract many hawks and owls.

The river valleys in Douglas County are not heavily timbered. Along the Kansas River there is a narrow border of willows and cottonwoods and a few patches of other trees. This timber usually has a thick growth of underbrush and weeds which, nearly every year, produces a large crop of weed seeds that attract wintering sparrows. In this timber the waves of transients, which follow the streams, can, of course, more easily be seen in spring, when the vegetation is not dense, than in fall.

The hilltops as well as most of the valleys have been cleared for farming. Thus only the hillsides are covered with timber. This is of the red oak-hickory type. Most of the hillsides have limestone outcrops and, as a rule, the vegetation is not so thick there as it is near the streams. The hillsides are more quiet and less frequently disturbed by hunters and other persons than are the valleys.

The representative pasture near Lawrence, with its blue grass, its weed patches, its thickets of sumac and coral-berry, and its scattered group of trees, furnishes a variety of habitat. The pastures often

adjoin or include small patches of hillside timber. Nearly every pasture in the territory has a wooded ravine running through it. During the winter, loose flocks, containing many species of birds, travel up and down these ravines while feeding. However, these pastures furnish few desirable nesting sites and thus are chiefly used as feeding grounds and for protection in winter.

There are several abandoned roads near Lawrence. These are lined with rows of osage-orange which has made tangles of brush and these have practically been turned over to the birds. Several roads that are in use, have osage-orange and other brush along their sides and also furnish food, protection, and nesting sites for several species of birds.

Cultivation of the land in this vicinity has, in itself, affected a few species of birds and the draining of the low marshy ground along the Wakarusa has driven out nearly all the water birds that formerly nested there. Now, only a few of these species may be found, as transients, in favorable seasons. The planting of trees in parks, cemeteries, nurseries, around farm buildings, and along roads has helped to increase the number of bird individuals and probably the number of species. An * before the name of a species indicates that specimens were taken.

Annotated List

[The following list contains 201 named forms.—Ed.]

*Pied-billed Grebe. *Podilymbus podiceps.* Found commonly between March 28 and June 2 and between October 2 and 30. Seen on the Kansas River, at Lake View, and on small ponds.

Ring-billed Gull. *Larus delawarensis.* Flock of about 20 seen on April 30, 1920.

Franklin's Gull. *Larus franklini.* Small flocks seen May 2, 1920, and November 5, 1919.

*Black Tern. *Chlidonias nigra surinamensis.* Seen feeding over fields and on the lake at Lake View from May 5 to June 2.

Double-crested Cormorant. *Phalacrocorax auritus auritus.* Single individuals seen at Lake View on April 17, May 1, 8, and 15, and October 2, 1920.

Merganser. *Mergus americanus.* Found on Kansas River, January 11, 1920, and on Wakarusa River, May 9, 1921.

Hooded Merganser. *Lophodytes cucullatus.* Seen at Lake View, May 1, 1920, and on Wakarusa River, May 5, 1921.

*Mallard. *Anas platyrhynchos.* Transients noted from February 15 to May 6 and from October 30 to November 11.

Gadwall. *Chaulelasmus streperus.* One bird identified in bag of hunter on Haskell farm, March 15, 1921.

Baldpate. *Mareca americana.* Found on March 28 and April 12, 1921, south of Lawrence and from April 10 to 24, 1920, at Lake View.

*Green-winged Teal. *Nettion carolinense.* Seen from March 12 to April 28 and from September 8 to November 11.

*Blue-winged Teal. *Querquedula discors.* Common; seen from March 9 to May 21.

Shoveller. *Spatula clypeata.* Transients found from March 28 to May 15.

*American Pintail. *Dafila acuta tzitzihoa.* Found between January 30 and May 5 and in the fall.

Canvas-back. *Marila valisineria.* At Lake View on April 24 and May 1, 1920, and March 28, 1921.

Lesser Scaup Duck. *Marila affinis.* Found from March 25 (1921) to May 8 (1920), at Lake View and noted every spring on Kansas River near Lawrence.

Canada Goose. *Branta canadensis canadensis.* Flocks seen and heard as they flew over Lawrence in spring and fall migrations.

*Bittern. *Botaurus lentiginosus.* Found in the wet Haskell meadows between April 4 and May 12, 1922, and between October 3 and 28. One, of two seen, collected November 26, 1921.

*Least Bittern. *Ixobrychus exilis.* One flushed at edge of lake at Lake View on June 2, 1920.

Great Blue Heron. *Ardea herodias herodias.* Frequently seen on Kansas River in summer.

*Green Heron. *Butorides virescens virescens.* Arrived in 1921 on April 11. Latest fall record, October 30, 1920. Common summer resident.

*Black-crowned Night Heron. *Nycticorax nycticorax naevius.* Found on March 27 and April 18, 1920; April 23 and 27, and May 2, 5 and 15, and September 13, 1921; and April 7, 17 and 29, and May 3 and 4, 1922.

*Yellow-crowned Night Heron. *Nyctanassa violacea.* A female shot in small grove of trees along Kansas River, two miles east of Lawrence, May 4, 1921. One year later, May 4, 1922, a male was collected in the same grove.

*King Rail. *Rallus elegans.* Frequently seen in wet Haskett meadows south of Lawrence between April 7 and June 4 and between Octo-

ber 17 and November 25. Egg, ready to be laid, taken from bird May 4, 1921.

*Virginia Rail. *Rallus virginianus.* Collected in sloughs south of Lawrence on May 4 and 14, 1921.

*Sora. *Porzana carolina.* Found in wet meadows south of Lawrence between April 22 and May 21. Fall date, November 9, 1920.

*Coot. *Fulica americana.* Found on rivers, creeks and at Lake View.

Wilson's Phalarope. *Steganopus tricolor.* Found between April 24 and May 14 at Lake View.

Woodcock. *Rubicola minor.* One bird seen on Haskell farm in swampy timber along Wakarusa River, October 3, 1922.

*Wilson's Snipe. *Gallinago delicata.* Common in wet places between March 16 and May 12, and between October 5 and November 6. Late dates, November 25 and 26, 1921.

*Long-billed Dowitcher. *Limnodromus griseus scolopaccus.* Three taken from flock of four April 5 on Haskell meadows and another from small flock at pond one mile west of Haskell farm on April 28, 1922.

*Pectoral Sandpiper. *Pisobia maculata.* Common transient in wet meadows south of Lawrence, at Lake View, and along Kansas River.

White-rumped Sandpiper. *Pisobia fuscicollis.* Seen at Lake View on April 10 and 17 and May 8, 1920.

*Least Sandpiper. *Pisobia minutilla.* Common transient. Found in flocks at Lake View, in Haskell meadows, and along Kansas River.

*Semipalmated Sandpiper. *Ereunetes pusillus.* Common transient.

*Hudsonian Godwit. *Limosa haemastica.* One collected from group of four at small pool of water three miles south of Lawrence on May 4, 1921.

*Greater Yellow-legs. *Totanus melanoleucus.* Six records between April 6 and May 14.

*Yellow-legs. *Totanus flavipes.* Common transient at Lake View and in wet meadows south of Lawrence.

*Solitary Sandpiper. *Tringa solitaria solitaria.* Found between April 12 and May 19. Fall date, September 13, 1921.

Upland Plover. *Bartramia longicauda.* Record: 1920, on April 25 and 30 and on June 4: 1921, on April 22, 26, and 29: and 1922, on April 6, 25, 28 and 29.

*Spotted Sandpiper. *Actitis macularia.* Seen from April 24 to October 10.

*Long-billed Curlew. *Numenius americanus.* One collected on Haskell meadows, April 4, 1922.

Golden Plover. *Pluvialis dominica dominica.* Flock of seven birds seen, April 6, 1922, on Haskell meadows.

*Killdeer. *Oxyechus vociferus.* Recorded between March 4 and December 4.

*Semipalmated Plover. *Charadrius semipalmatus.* Found along Kansas River and at Lake View between April 24 and May 15. Only fall record, October 30, 1920.

*Bob-white. *Colinus virginianus virginianus.* Common resident.

Prairie Chicken. *Tympanuchus americanus americanus.* One seen flying over a field two miles south of Lawrence on January 8, 1921.

*Mourning Dove. *Zenaidura macroura carolinensis.* Common in summer and frequently seen in winter. Nest containing three eggs found on May 23, 1920.

Turkey Vulture. *Cathartes aura septentrionalis.* Recorded between March 9 and October 23.

*Marsh Hawk. *Circus hudsonius.* Found between August 28 and May 12. Most common in October, November and March.

*Sharp-shinned Hawk. *Accipter velox.* Recorded on April 9 and 17, 1921, and May 3, 1920.

*Cooper's Hawk. *Accipiter cooperi.* Found frequently throughout the year.

*Red-tailed Hawk. *Buteo borealis borealis.* Common throughout the year. Nests in timber on hills and along streams.

*Western Red-tail. *Buteo borealis calurus.* Common in winter.

Harlan's Hawk. *Buteo borealis harlani.* Seen in winter.

Swainson's Hawk. *Buteo swainsoni.* April 12, 1922, only record.

*Rough-legged Hawk. *Archibuteo lagopus sancti-johannis.* Recorded between November 12 and April 21.

*Sparrow Hawk. *Cerchneis sparveria sparveria.* Found throughout the year. One pair nested, each year, in a cornice of a building on the University of Kansas campus. Several other pairs nested in the city of Lawrence.

Osprey. *Pandion haliaetus carolinensis.* One bird at Lake View, September 30, 1922.

*Barn Owl. *Tyto alba pratincola.* Recorded on March 9 and 30 and May 14, 1921, April 21, 1922, and September 20, 1923.

*Long-eared Owl. *Asio wilsonianus.* Found on April 14, 17 and 27, 1921.

*Short-eared Owl. *Asio flammeus.* Common each winter in tall grass on Haskell meadows and noted on other meadows not cut for hay.

Barred Owl. *Strix varia varia.* Permanent resident found in heavy timber along Washington Creek seven miles southwest of Lawrence.

*Screech Owl. *Otus asio asio.* Common resident.

Great Horned Owl. *Bubo virginianus virginianus.* Found throughout the year in timber along streams.

*Yellow-billed Cuckoo. *Coccyzus americanus americanus.* Common summer resident. Recorded between May 12 and September 21.

Belted Kingfisher. *Ceryle alcyon alcyon.* Found along the streams throughout the year but less commonly in winter.

*Hairy Woodpecker. *Dryobates villosus villosus.* Found in nearly all timber in county.

*Downy Woodpecker. *Dryobates pubescens medianus.* Common resident.

*Yellow-bellied Sapsucker. *Sphyrapicus varius varius.* Records are March 26 and April 12, 1922; January 15 and March 6, 1923.

*Red-headed Woodpecker. *Melanerpes erythrocephalus.* Common in summer and locally common in winters of 1922 and 1923.

*Red-bellied Woodpecker. *Centurus carolinus.* Found throughout the year.

*Northern Flicker. *Colaptes auratus luteus.* Found at all seasons.

Red-shafted Flicker. *Colaptes cafer collaris.* One record. December 2, 1923.

*Whip-poor-will. *Antrostomus vociferus vociferus.* Found in summer, in timber on hills and along streams. In 1922, first seen on April 25.

*Nighthawk. *Chordeiles virginianus virginianus.* Few seen except in migration seasons when frequent.

*Chimney Swift. *Chaetura pelagica.* Common in summer in neighborhood of buildings. Dates of arrival are: 1920, April 16; 1921, April 15; 1922, April 8; and 1923, April 16. Latest fall record, October 11, 1919.

Ruby-throated Hummingbird. *Archilochus colubris.* Common in summer.

*Kingbird. *Tyrannus tyrannus.* Common in summer, near houses and timber. Earliest spring record, April 12, 1922. Latest fall record, August 29, 1920.

*Arkansas Kingbird. *Tyrannus verticalis.* Seen along Kansas River northwest of Lawrence on May 15, 1920. A male shot three miles east of Lawrence along same river, April 29, 1922. Another seen at this place on May 7, 1922.

*Crested Flycatcher. *Myiarchus crinitus.* April 21, 1920, is earliest spring record for this common summer resident. Latest fall record, September 21, 1921.

*Phoebe. *Sayornis phoebe.* Common in summer near culverts, bridges, and buildings as well as near cuts and rock ledges along streams. March 9, 1921, is earliest spring record. October 9, 1920, is latest fall record.

*Olive-sided Flycatcher. *Nuttallornis borealis.* Female shot in timber east of Lawrence, September 4, 1921. Another seen in timber near Lake View in first week of May, 1924.

*Wood Pewee. *Myiochanes virens.* Common in summer.

*Acadian Flycatcher. *Empidonax virescens.* May 6, 1920, earliest record.

*Alder Flycatcher. *Empidonax trailli alnorum.* Collected May 6 and 8, 1921.

*Least Flycatcher. *Empidonax minimus.* Collected May 7 and September 21, 1921.

*Prairie Horned Lark. *Otocoris alpestris praticola.* Common in fields and often seen in roads.

*Blue Jay. *Cyanocitta cristata cristata.* Found wherever there are trees but not common in winter.

*Crow. *Corvus brachyrhynchos brachyrhynchos.* Common resident.

*Bobolink. *Dolichonyx oryzivorus.* Seen in pastures south of Lawrence on May 9 and 20, 1920; May 8 and 14, 1921; and May 13, 1923.

*Cowbird. *Molothrus ater ater.* No winter records between November 12 and March 5. Common during remainder of year.

Yellow-headed Blackbird. *Xanthocephalus xanthocephalus.* Flocks seen on April 24 and 25, 1920, and on April 25, 1922.

*Red-winged Blackbird. *Agelaius phoeniceus phoeniceus.* Found in summer.

*Thick-billed Redwing. *Agelaius phoeniceus fortis.* Specimens collected but seasonal distribution not worked out.

*Meadowlark. *Sturnella magna magna.* Found at all seasons but more commonly in summer.

*Western Meadowlark. *Sturnella neglecta.* Records are: November 25, 1920 (collected); April 17 and 25, 1921, and November 12, 1921; and April 29 and 30 and May 7, 1922. A few pairs nested in pastures near Lawrence.

*Orchard Oriole. *Icterus spurius.* Common summer resident. None found later than August 29 (1920).

*Baltimore Oriole. *Icterus galbula.* Earliest record, April 24, 1920. Latest fall record, September 29, 1920.

*Rusty Blackbird. *Euphagus carolinus.* All records between November 6 and April 18. Roosted, in fall, in wet weadow land south of Lawrence.

*Bronzed Grackle. *Quiscalus quiscula aeneus.* Earliest spring record, March 9, 1921. Latest record, December 27, 1920. Common in summer, abundant in spring and fall.

Purple Finch. *Carpodacus purpureus purpureus.* Winter records, January 11, 1920, and November 12 and 20, 1921.

Crossbill. *Loxia curvirostra minor.* Flocks recorded between October 3 (1924) and April 6 (1920). In Lawrence, usually found feeding on seeds of pine trees.

*Goldfinch. *Astragalinus tristis tristis.* Common resident.

Pine Siskin. *Spinus pinus.* Common from January 10 to May 14 in spring of 1920.

*English Sparrow. *Passer domesticus.* Most abundant in vicinity of farm buildings.

*Lapland Longspur. *Calcarius lapponicus lapponicus.* Large flocks seen in fields south of Lawrence on January 11 and November 18 and 25, 1920.

*Vesper Sparrow. *Pooecetes gramineus gramineus.* Found as a transient. Seen most frequently at edges of fields and along roads. In 1920, 1921, and 1922, first recorded on March 27, 28, and 30, respectively. Latest spring records, April 23, 1920 and 1921. Fall records between October 4 (1919) and November 11 (1921).

*Savannah Sparrow. *Passerculus sandwichensis savanna.*

*Western Savannah Sparrow. *Passerculus sandwichensis alaudinus.* Both forms taken during migrations. Spring records, between March 10 and May 15. October 25, 1920, is latest fall record. Found in grassy fields.

Grasshopper Sparrow. *Ammodramus savannarum australis.* Recorded on May 1 and October 2, 1920.

*Leconte's Sparrow. *Passerherbulus lecontei.* Common in grassy meadows in spring and fall.

*Lark Sparrow. *Chondestes grammacus grammacus.* First recorded in 1920 on April 16; in 1921 on April 19; and in 1922 on April 15. Present throughout summer.

*Harris's Sparrow. *Zonotrichia querula.* Earliest fall record for this winter resident is October 9, 1920. Late spring records: May 9, 1920; May 14, 1921; and May 13, 1922.

*White-crowned Sparrow. *Zonotrichia leucophrys leucophrys.* Spring records: April 30, 1920; May 12, 1921; and March 22 and May 6, 1922. Fall records are October 2 and December 11, 1920.

*Gambel's Sparrow. *Zonotrichia leucophrys gambeli.* Eight spring records between March 30 (1922) and May 8 (1921). Fall records: October 16, 17, and 23, 1920; and October 22 and November 25, 1921.

*White-throated Sparrow. *Zonothrichia albicollis.* Spring records between March 30 (1922) and May 20 (1921). Found in fall between October 3 (1921) and December 11 (1920).

*Tree Sparrow. *Spizella monticola monticola.*

*Western Tree Sparrow. *Spizella monticola ochracea.* Both forms collected. Present in winter from October 25 (1920) until April 18 (1920).

*Chipping Sparrow. *Spizella passerina passerina.* Earliest arrival, March 6, 1924. Latest fall record, October 3, 1920.

*Clay-colored Sparrow. *Spizella pallida.* Collected in edge of patch of timber, two miles east of Lawrence on May 10, 1921 and April 3, 1922. Records at similar place along Wakarusa River, on Haskell farm, May 4 and 9, 1922.

*Field Sparrow. *Spizella pusilla pusilla.*

*Western Field Sparrow. *Spizella pusilla arenacea.* Most of those collected apparently intermediate between these two forms. Recorded between March 4 and October 30.

*Slate-colored Junco. *Junco hyemalis hyemalis.* Earliest arrival of this common winter resident, September 23, 1920. Late spring records: April 25, 1921 and April 30, 1922.

*Song Sparrow. *Melospiza melodia melodia.*

*Dakota Song Sparrow. *Melospiza melodia juddi.* Species found from September 26 (1920) until May 9 (1921).

*Lincoln's Sparrow. *Melospiza lincolni lincolni.* Spring records between April 3 (1922) and May 15 (1921).

*Swamp Sparrow. *Melospiza georgiana.* Recorded between March 13 (1920) and May 10 (1921) and between October 21 and December 2 (1920).

*Fox Sparrow. *Passerella iliaca iliaca.* Common winter resident. Earliest arrival, October 16, 1921. Latest record, April 19, 1921.

*Towhee. *Pipilo erythrophthalmus erythrophthalmus.* Common in summer and frequent in winter.

*Cardinal. *Cardinalis cardinalis cardinalis.* Common resident.

*Rose-breasted Grosbeak. *Hedymeles ludovicianus.* Found between April 25 (1922) and September 13 (1921). Often seen in shade trees in Lawrence.

*Indigo Bunting. *Passerina cyanea.* Common summer resident between April 30 (1920) and September 13 (1921).

*Dickcissel. *Spiza americana.* April 25, 1922, earliest record for this common summer resident.

*Scarlet Tanager. *Piranga erythromelas.* Found in oak timber on hills. May 8, 1920, earliest spring record.

*Summer Tanager. *Piranga rubra rubra.* Found in same places as Scarlet Tanager. Earliest record, April 29, 1922.

Purple Martin. *Progne subis subis.* Found commonly between March 18 (1922) and September 3 (1919).

*Cliff Swallow. *Petrochelidon lunifrons lunifrons.* Found in spring from April 29 to May 19. August 29, 1920, only fall record.

*Barn Swallow. *Hirundo erythrogastra.* Earliest records: April 23, 1920; April 22, 1921; and April 25, 1922. Late fall records. October 4, 1919, and September 21, 1921.

*Tree Swallow. *Iridoprocne bicolor.* Present as transient between April 24 (1920) and May 8 (1921).

*Bank Swallow. *Riparia riparia.* Nested in vertical banks along Kansas River. Earliest date of arrival, April 17, 1920.

*Rough-winged Swallow. *Stelgidopteryx serripennis.* Found with Bank Swallow. Earliest record, April 22, 1921.

*Cedar Waxwing. *Bombycilla cedrorum.* Fifteen records between January 1 (1920) and May 6 (1921).

*Northern Shrike. *Lanius borealis.* Seen on December 19, 1919, and one shot along a road, three miles south of Lawrence, on November 11, 1920.

*White-rumped Shrike. *Lanius ludovicianus excubitorides.* A male, shot November 25, 1922, was identified by Dr. A. Wetmore as belonging to this subspecies.

*Migrant Shrike. *Lanius ludovicianus migrans.* Common, in summer, along roads and in thickets in pastures. Winter records: December 27, 1920, and March 11 and 12, 1921.

*Red-eyed Vireo. *Vireosylva olivacea.* Common summer resident. Records between May 3 (1921) and September 17 (1921).

*Warbling Vireo. *Vireosylva gilva gilva.* Found between April 23 (1922) and September 21 (1923).

*Yellow-throated Vireo. *Lanivireo flavifrons.* Recorded May 8, 1920, and April 28 and May 14, 1921.

*Blue-headed Vireo. *Lanivireo solitarius solitarius.* Recorded, May 8, 1920; May 6, 10 and 15, 1921; September 13 and 24, and October 22, 1921; and September 20, 1923.

*White-eyed Vireo. *Vireo griseus griseus.* Found in summer at edge of timber on hills. Earliest arrival, April 15, 1922.

*Bell's Vireo. *Vireo belli belli.* First records of this common summer resident, May 3, 1920, and May 8, 1922. Late records, September 26, 1920, and September 13, 1921.

*Black and White Warbler. *Mniotilta varia.* Found only as transient. April 29, 1922, earliest record. None seen after May 18 (1920). Latest record, September 23, 1921.

*Golden-winged Warbler. *Vermivora chrysoptera.* One taken, May 2, 1921, three miles south of Lawrence on Wakarusa River. Believed to be first specimen collected in state.

*Nashville Warbler. *Vermivora ruficapilla ruficapilla.* Frequent transient. Recorded between May 7 (1922) and May 14 (1921). Fall records: September 24, 1921, and September 20, 1923.

*Orange-crowned Warbler. *Vermivora celata celata.* Common in spring. Recorded between April 21 (1922) and May 20 (1921).

*Tennessee Warbler. *Vermivora peregrina.* Common transient. Recorded between April 25 (1922) and May 23 (1920). September 17, a fall record.

*Northern Parula Warbler. *Compsothlypis americana pusilla.* Earliest record, April 13, 1921. Young birds, just out of nest, collected in timber twelve miles south of Lawrence on July 9, 1922.

Cape May Warbler. *Dendroica tigrina.* An adult male seen in timber along Kansas River northwest of Lawrence on May 15, 1920.

*Yellow Warbler. *Dendroica aestiva aestiva.* Common summer resident. Earliest record, April 24, 1920.

*Myrtle Warbler. *Dendroica coronata.* Found from April 17 (1920 and 1921) until May 17 (1920) and from October 3 (1920) until November 12 (1921).

Magnolia Warbler. *Dendroica magnolia.* Recorded on May 15, 16, and 17, 1920, and on May 7, 1921.

Chestnut-sided Warbler. *Dendroica pensylvanica.* Seen feeding in bushes near the ground in a small patch of timber along Kansas River, three miles east of Lawrence on May 17 and 19, 1920.

*Black-poll Warbler. *Dendroica striata.* Found commonly from May 9 until May 23, 1920, and from May 12 to 20, 1921, and on May 10, 1922.

Blackburnian Warbler. *Dendroica fusca.* Small group seen in trees in west part of Lawrence on September 9, 1920.

*Black-throated Green Warbler. *Dendroica virens.* Collected in timber along Wakarusa River on May 7 and 8, 1921, and on May 7, 1922.

*Palm Warbler. *Dendroica palmarum palmarum.* Seen in edge of timber near Lake View, May 8, 1920. Collected in narrow fringe of willows, skirting Kansas River, east of Lawrence on May 6, 1921; April 29 and 30, 1922; and May 3 and 5, 1922.

*Oven-bird. *Seiurus aurocapillus.* May 6, 1922, earliest record. Records for September 13, 17, and 21, 1921.

*Water-Thrush. *Seiurus noveboracensis noveboracensis.* A female, collected May 21, 1921, was identified by Dr. A. Wetmore as belonging to this form. This is believed to be the first record for the taking of this subspecies within the state of Kansas.

*Grinnell's Water-Thrush. *Seiurus noveboracensis notabilis.* In all, ten spring records in 1920-21-22. Earliest, April 30, 1920, and latest May 22, 1920.

*Kentucky Warbler. *Oporornis formosus.* Found in timber on hills and along streams from May 4, 1921, until September 13, 1921. Young birds, just leaving the nest, collected on July 9, 1922, on low timbered ground twelve miles south of Lawrence.

*Mourning Warbler. *Oporornis philadelphia.* Found in weeds along streams on May 17, 19, and 23, 1920.

*Maryland Yellow-throat. *Geothlypis trichas trichas.* Common summer resident. April 21, 1922, earliest record and September 13, 1922, latest.

*Yellow-breasted Chat. *Icteria virens virens.* Found, earliest, on April 29, 1920. Latest record, August 29, 1920. Common all summer.

*Wilson's Warbler. *Wilsonia pusilla pusilla.* Spring records between May 2 (1921) and May 17 (1920). Only fall records, September 9, 1920, August 23, 25, and September 17, 1921.

*Pileolated Warbler. *Wilsonia pusilla pileolata.* A female collected on May 2, 1921, was identified by the U. S. Bureau of Biological Survey as a Pileolated Warbler.

*Redstart. *Setophaga ruticilla.* Found in timber on hills and along streams all summer. Early and late records are April 30, 1920, and September 17, 1921.

*Pipit. *Anthus rubescens.* Especially common during an outbreak of the green bug in fields near Lawrence in the spring of 1921. Found from March 12 until May 19 of that year and usually seen in large flocks.

*Mockingbird. *Mimus polyglottos polyglottos.* A few found in summer, along roads near Lawrence, from April 15 (1921) until September 13 (1921). One seen in a patch of timber, four miles south of Lawrence, on December 22, 1919.

*Catbird. *Dumetella carolinensis.* Common summer resident. Recorded between April 25 (1922) and October 4 (1919).

*Brown Thrasher. *Toxostoma rufum.* Common summer resident. Earliest record, April 6, 1922. Latest record, October 4, 1919. One seen on October 2, 1920.

*Carolina Wren. *Thryothorus ludovicianus ludovicianus.* Common resident.

*Western House Wren. *Troglodytes aedon parkmani.* Common in summer. Dates of arrival for 1920-21-22-23 are: April 15, 13, 10, and 9, respectively. October 9, 1921, latest fall record.

*Winter Wren. *Nannus hiemalis hiemalis.* Found on January 9, 1923; March 30, 1921; and on April 18, 1920.

*Short-billed Marsh Wren. *Cistothorus stellaris.* Collected April 29, 1921. A group of six found in brush pile along ditch, May 10, 1921. These birds were singing. Another shot, in tall grass in meadow, two miles south of Lawrence, on October 25, 1920.

*Prairie Marsh Wren. *Telmatodytes palustris iliacus.* Found on April 29, and May 7, 8, 14, and 19, 1921, and May 8, 1920. Found at Lake View and on wet ground south of Lawrence.

*Brown Creeper. *Certhia familiaris americana.* Common winter resident between October 16 (1921) and April 18 (1922).

*White-breasted Nuthatch. *Sitta carolinensis carolinensis.* Found frequently throughout the year.

*Red-breasted Nuthatch. *Sitta canadensis.* Recorded on March 27 and May 6, 1920, and March 3, 1924. On the latter date one was

caught with bare hands while it rested in an old Cardinal's nest of the previous season.

*Tufted Titmouse. *Baeolophus bicolor.* Common resident.

*Chickadee. *Penthestes atricapillus atricapillus.* Resident.

*Long-tailed Chickadee. *Penthestes atricapillus septentrionalis.* Found in winter.

*Golden-crowned Kinglet. *Regulus satrapa satrapa.* Collected on March 8 and December 27, 1921, and locally common in winter between these dates.

*Ruby-crowned Kinglet. *Regulus calendula calendula.* Common transient. Recorded between March 27 (1920) and May 14 (1921) and between September 17 (1921) and October 23 (1920).

*Blue-gray Gnatcatcher. *Polioptila caerulea caerulea.* Frequent summer resident between April 2 (1920) and August 29 (1920).

*Wood Thrush. *Hylocichla mustelina.* Common summer resident. Recorded between April 26 (1922) and September 17 (1921).

*Gray-cheeked Thrush. *Hylocichla aliciae aliciae.* Found from May 2 to 19, 1921.

*Olive-backed Thrush. *Hylocichla ustulata swainsoni.* Common transient. Present, in 1920, from April 29 to May 23, and on September 9.

*Hermit Thrush. *Hylocichla guttata pallasi.* Found, near ground in timber, frequently in spring. Dates of occurrence: 1920, April 10 and 18; 1921, March 28 and April 4, 6, 8, 9, 10, 14, and 17; 1922, April 5 and 29.

*Robin. *Planesticus migratorius migratorius.* Common summer resident. Infrequent in winter.

*Bluebird. *Sialia sialis sialis.* Common summer resident and found in winter.

Berkeley, California, December 20, 1925.

THE WILSON BULLETIN

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The present editorial organization is as follows:

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Prof. Gordon Wilson, Bowling Green, Kentucky.
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Mr. Walter W. Bennett, Sioux City, Iowa.

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EDITORIAL

We regret to be unable to announce the time and place of the next annual meeting. It will probably be Nashville, Tennessee, but official action has not yet been taken.

In Mr. Burleigh's article in the last number of the WILSON BULLETIN (March, 1927) the date for the Dickcissel (page 18, line 35) should have been May 4, 1923, instead of March 4.

During the summer Secretary Gloyd's address will be: University of Michigan Biological Station, Cheboygan, Michigan: after August 15 his permanent address will be: Kansas State Agricultural College, Manhattan, Kansas. From the middle of June to the middle of August the Editor expects to be conducting a class of students through Minnesota, North Dakota, Montana, Yellowstone Park, and the Black Hills of South Dakota. Mail addressed as usual will be forwarded.

The Editor feels somewhat inclined to offer an apology for the lankness of this page in this issue. A variety of other duties has made it a sufficient burden to carry on the ordinary routine of copy-editing, proof-reading, make-up, etc., without making any special effort to fill this page. Sometime, if we can find time to write about it, we would like to tell the readers just about how much editorial time and work go into the BULLETIN for each issue.

GENERAL NOTES

Conducted by M. H. Swenk

A Second Record for the Red Phalarope in Kansas.—On October 25, 1926, a male Red Phalarope (*Phalaropus fulicarius*) was taken in Franklin County, Kansas, by one of my students, Mr. Wesley Clanton. This is the second record of this species from the state. The first, as reported by Bunker (1913, Kansas Univ. Sci. Bul. 7:137-158), was a female secured at Lake View, Douglas County, November 5, 1905 by E. E. Brown. The measurements in millimeters of the Franklin County specimen follow: Length, 215; wing, 129; tail, 62: head, 28: bill, 23: tarsus, 21: and middle toe, 21.—Howard K. Gloyd, *Ottawa, Kans.*

A Note on a Habit of the Tufted Titmouse.—While walking through the woods looking for Crows' nests about the first of last May, I came upon an unusual sight. On a branch of a tree a few feet from the ground sat a Woodchuck (*Marmota monax*), while bobbing up and down above it a tufted Titmouse (*Baeolophus bicolor*) was engaged in plucking hair from its back. On a near-by twig the bird's mate was perched, with its mouth already full of hair, and in a few minutes they flew away together. Since the use of cattle hair for nest lining by the Tufted Titmouse has been observed and recorded (Davie, 1889; Goss, 1891) it is probable that this was to be used for the same purpose.—Ward Reed, *Princeton, Kans.*

The Orchard Oriole in Clayton County, Iowa.—The Orchard Oriole (*Icterus spurius*) is listed in Anderson's "Birds of Iowa" as a common summer resident in all parts of Iowa. That is hardly the case in this (the northeastern) corner of the state. While uncommon enough even in migration, I had the pleasure of finding a nesting pair in 1926, at Giard, that I believe to be the first definite nesting record for Clayton County. The male was in the plumage of the second year, which was highly developed, with a large black throat patch and faint traces of chestnut. The nest was cleverly hidden, thirty-two feet up in a pine, and was woven entirely of grass, with no other lining. It was discovered on June 27, the two young left it on July 6, and I collected it a few days later.—Oscar P. Allert, *McGregor, Iowa.*

The Baltimore Oriole Wintering in Ohio.—On January 3, 1927, a male Baltimore Oriole (*Icterus galbula*) appeared in my garden, feeding upon frozen grapes and berries of the Deadly Purple Nightshade (*Atropa belladonna*). He was a rather disconsolate looking bird, seemingly very weak and lame, yet withall a beautiful sight in his bright orange and black garb, against the beautifully white back-ground of freshly fallen snow. I am of the opinion that it is the same bird that was rescued from the claws of a large Persian cat on November 1, 1926. This bird was slightly injured and lame. I attempted to get him, if possible, and doctor his injury, but he would always hop just beyond my reach. He was terribly frightened at the time, and kept close to the ground, hiding in the grape vine. After a while, he flew away. I saw him again on November 2, 1926.—Mrs. Howard Smith Benedict, *Lakewood, Ohio.*

The Evening Bath of a Flock of Scissor-tailed Flycatchers.—One of the prettiest sights I have ever witnessed in bird life was the evening bath of a

flock of Scissor-tailed Flycatchers (*Muscivora forficata*). On a day in mid-September a dozen or more of these lovely birds had gathered in the little willows growing in a small pond, and for some time had been sitting quietly. Suddenly one swooped down to the water, but came up without quite touching it; another did the same, and then another. Finally, one brave bird splashed its breast into the water and flew up to a twig, where it shook itself and began to preen its feathers. Whereupon they all followed suit, sometimes singly, sometimes two or three at a time, darting down quickly—a sudden dip into the water and then up again. The colors on their sides and under their wings shone pink and salmon and ruby in the late afternoon light. It was a rarely beautiful sight—the exquisite birds in their fairy-like evolutions.—Margaret Morse Nice, *Norman, Okla.*

On the Nesting of the Blue Jay.—In April, 1925, a pair of Blue Jays (*Cyanocitta cristata cristata*) build a nest in a small evergreen tree about five feet from a garage window. To observe the nest the window was covered on the inside, excepting for a one inch space which was cut out of the pane. The tree was about twenty feet from the highway. The Jays were first observed feeding each other on March 16. Nest building was started on April 7, and was completed on April 12. It was a typical Blue Jay nest, composed of interwoven rootlets in a crotch and plastered with mud in the bottom. The upper part was built of twigs. The first egg was laid April 16, the second at 10:30 A. M. on April 19, the third on April 20, the fourth on April 21, and the fifth on April 23. Four of the eggs hatched on May 7, and the remaining egg hatched on May 8. The first evidence of feathers was on May 14. The young birds first called for food in a very faint and high-pitched tone just audible five feet from the nest, on May 14. The nest was destroyed shortly thereafter by cats, assisted by Sparrow Hawks. The female Jay was not seen afterwards. The male Jays remained in the locality for several days and then disappeared.—E. C. Hoffman, 1041 *Forestcliff Drive, Lakewood, Ohio.*

Birds Excited by a Snake.—While out on a bird tramp, on September 12, 1926, as often happens, we walked for a long distance through what was good territory without seeing a single bird. Then not one, but eight appeared almost at once. First we heard the low call note of the Brown Thrasher and discovered one on a low branch a few feet above the ground, moving slowly down the branch. Just below it was a brilliant red Cardinal. On a plant a foot or so away and a few inches above the ground sat a Catbird. On the ground was a second Brown Thrasher, her feathers more or less rumpled and her wings outspread. She moved backward and forward, beating the ground now and then with her wings somewhat as the Mockingbird does in its courting dance. In a moment her mate joined her on the ground, his wings also outspread. Meanwhile a pair of Hooded Warblers were flying back and forth over the ground near the Catbird and Thrashers. At least one Wood Thrush was watching proceedings from a low limb close by. Then from somewhere on the ground near the Thrashers a Carolina Wren appeared, its plumage so ruffled that the eye-line scarcely showed, and only its tail-tilt proclaimed it to be a Wren. Except for the call notes of the Brown Thrashers that were first heard, none of the birds uttered a sound.

After watching for a few moments and being unable to see the cause of the gathering, we approached near enough to frighten the birds away. At first we could see nothing to cause so much excitement; then we discovered, as we had suspected, a copperhead snake, perhaps twelve inches long. The snake, blending so well in color with the dead leaves of the ground as to be hard to see, even when we knew it was there, lay irregularly coiled, its head flattened down on the body and so motionless as to appear dead. The birds meanwhile utterly vanished. Beryl T. Mounts, *Macon, Ga.*

Some Notes on Mutilated Birds.—In the first week in August, 1924, I saw a Vesper Sparrow (*Pooecetes gramineus gramineus*) that seemed to be rather weak, and therefore I made an effort to capture it. As I got nearer to the bird it flew about fifteen rods in the meadow, and it was easily captured. Upon examining it, I found that the bird was without a bill, but for how long, I could not tell. Its tongue was exposed, and how it managed to gets its meals on insects or seeds is something to wonder about. I put it in a cage and tried to feed it, but its increasing weakness made that impossible, and it died a few hours after having been captured. This was in Lucc County, Michigan.

A few days before getting the Vesper Sparrow without the bill, I saw a bird in a very unusual action. It appeared as if it was tied to a string and had only a few yards to range, like a cow when tied to a stake in the pasture. I at once ran and captured it, and found that half of its right wing was missing, which caused it to be weak on the wing. Its longest distance of flight was not over two feet. Just how long this bird had been this way, and where it was when it happened, is a mystery. In reply to a letter sent to the Biological Survey, I was informed that if I was not able to care for the bird, it had better be killed. I kept the bird and it lived until about April 6, 1926. I have kept a record of what I took to be of the most interest, and am planning on summing it up for a future number of the Wilson Bulletin. These notes are mostly on its molt, song, and food—Oscar M. Bryens, *Three Rivers, Mich.*

Franklin's Gulls in Northwestern Oklahoma.—During the summer of 1925, Franklin's Gulls (*Larus franklini*) were with us more than usual. About 5,000 appeared in early July and among them were a goodly number in immature plumage. During the middle of August a good shower filled a dry pond near our house, and this was used by about a thousand gulls as their headquarters. They made a very pretty sight as they stood in the shallow water with their heads all in one direction against the wind. There was a constant hubbub of mewing and squalling amongst them. Some birds would be flying up to soar in the air above, while others would be sitting down with the flock. Some of them would go through intricate acrobatic aerial maneuvers, pitching and diving, while two different individuals actually banked their wings until they were in a vertical position and then turned over and floated on their backs upside down, righting themselves with a flip as they came on down to the water. The birds seemed much interested in fixing up their plumage and pulled out so many feathers in the operation that the border of the pond was completely lined with them. They ranged from little downy feathers a half inch long up to quills from the wings; most of them, however, were about two inches in length.

The gulls were very assiduous in their search for grasshoppers, and there was a noticeable diminution in the abundance of these insects as a result of

their labors. Most of their hunting was done in the cooler parts of the day—in the morning and evening. About sundown they would come trooping back, in long straggling lines. During the hotter part of the day the gulls were far aloft, sometimes getting so high up in the sky that they became merely faint specks which one could see only as they turned in the soaring and their white plumage glinted in the sunlight. In other years when they have been in abundance later in the season I have seen the air for miles fairly alive with these soaring specks. The beneficial character of the gulls is well understood hereabouts and everyone is their friend.—Walter E. Lewis. *Gate, Okla.*

Bird Groups During Migration.—Do birds preserve the family colony and the neighborhood group when migrating? In the late summer and early fall it is usual to see the birds mobilizing for the journey south. The Yellow-breasted Chat, the Catbird, the Brown Thrasher, the orioles, the flycatchers, and some others are usually found in family groups. The Robin and to some extent the Bluebird, the Meadowlark, and the Sparrows are usually found in neighborhood groups. The Vesper, Field and Chipping Sparrow population of a farm, or of several adjacent farms, form a neighborhood group and use a common feeding ground until they leave for the south. Some days, during the high tide of migration, their territory may be over-run with groups of migrant sparrows, but little coalescence is noted in the groups as they feed and rest in the stubble fields and thicket borders. The Chipping Sparrows sometimes may join with a company of migrant Kinglets. The Meadowlarks mobilize in some grassy meadow or pasture for the late summer molt. They are not much in evidence, and will only take to wing to escape some danger. But, with the completion of the molt, they are again active and roam over considerable territory.

In central Ohio the breeding Song Sparrows do not seem to migrate in any noticeable numbers, and I am persuaded that many of them have never traveled a mile from their home environment. In some favorable association on the farm they nest and rear their young, and we see them in that association every day throughout the year. During the fall, and yet more often in the spring migration, I have observed groups of migrant Song Sparrows feeding near their home. The local birds do not coalese with these groups, but keep on the outskirts. When the migrants are disturbed they usually fly to an adjacent field or thicket, and just as quickly the local birds fly to their accustomed cover and hiding places.

The Fox, White-throated and White-crowned Sparrows come to us as migrants, in companies of six to one hundred. The Fox Sparrow affords the best opportunity for a study of the migrant group. They are usually present in greater numbers, and their manner of feeding in the open woods makes the observation of them easy. A few warm days and nights in middle March brings waves of them, and if they are checked by a north wind, they stay until the next favorable weather. There may be hundreds of these birds in a wood lot, but the group outlines can be clearly drawn and the organization is held intact. These groups work in lines with the individual birds close enough, so the whole body of leaves is moved. The line is often zig-zag: one group that is more energetic or does not have so many leaves to move, may get ahead of their neighbors. The Robins work the woods the same way but use their bills to move the leaves.—Charles R. Wallace. *Delaware, Ohio.*

BIRD BANDING NEWS

Conducted by Wm. I. Lyon

THE FUN OF BANDING CHIMNEY SWIFTS

BY CONSTANCE AND E. A. EVERETT

The Rector of the Episcopal Church, otherwise known as "Parson" Brandon, reported having discovered a flight of Chimney Swifts entering the church chimney: we proceeded to go after them.

A trap was built like that described in Bird Banding Circular Number 19, excepting that the birds were discharged through one opening only, and the carpenters having forgotten to line it, afterward used the dark building paper as an outside cover instead. However, we found no birds injured by the wire mesh. A scaffold was built around the chimned to the top, about sixty feet above the ground, then the trap was hoisted up and fastened to this scaffold for the night.

A few minutes before daylight, on the morning of September 8, 1926, Ralph and Rolland Lorenz, Eagle Scouts, climbing the scaffold, quietly placed the trap "on location" on the chimney top and attached the gunny sack in position to receive the birds. Nearing the top, the scouts could hear the muffled beating of wings, and twitterings of the moving birds within the chimney. This ceased as the trap closed over the chimney top, and all was quiet for a few moments; then, the sounds beginning again, there was a sudden rush of birds through the trap into the receiving bag.

When this bag was filled, one scout slipped his hand through its entrance and covered the bottom of the discharge pipe to stop the flow of birds. (There should be a valve at this point to be operated from the outside.) The bag, with its quota of birds, was removed by a second scout while another was placed in position by a third scout. As the sack of birds was lowered to the ground by the first scout, the other end of the rope was bringing up empties to the top.

At the foot of the scaffold, the birds were received by the Parson and a fourth scout, passed to another scout inside a six-foot house trap, which was used as a receiving cage, and the whole covered with a large tarpaulin which darkened the cage and kept the birds quiet.

In less than five minutes, with but one casualty, one hundred sixty-four Chimney Swifts were inside of that cage, clinging to its walls of wire mesh like a swarm of bees, except that though densely massed, they were clinging to the wire and not to each other. A few were at all times on the wing, as they changed from one group to another, bewildered, perhaps, but not in the least frightened. Most of them, however, promptly alighted and tucked their heads under the wings and tails of those birds above them, until the inner walls of the cage took on the appearance of being shingled with birds.

The scout within the house trap began gently to separate individual birds from the mass, placing a few at a time in an ordinary receiving cage, and in an

old minnow bucket in lieu of another, passing them to the banders outside. One scout handled the receiving traps from the house trap to the banders, another opened the bands, and still another made the records. Miss Constance and the Parson, a fourth scout and E. A., in pairs, did the banding; one of us holding the bird and stretching out the short fat leg, while the other partner fastened the band in place. The stubby, grublike legs made banding very difficult, yet, in less than an hour, all the birds were again at liberty.

These swifts were very quiet, and apparently comfortable at all stages of the game. When held in the hands they would snuggle between the fingers confidingly; and when held against the clothes they would wriggle under the folds of the garments and contentedly go to sleep. We laid some of them on the steps, after banding them, and they remained as placed, except that occasionally one would sleepily open an eye as though inquiring what all the fuss was about. At one time we had a row across the steps, formed by placing the first bird then pushing him forward with the second when it was laid down and so on with the third and others, as a child pushes a string or train of dominoes. When finally the first bird was pushed over the end, it dropped nearly to the ground before catching itself to fly away. When we tossed the banded birds in the air, they generally fell some several feet before opening their wings to zoom into the upper air.

We were so interested and excited over handling so many and to us, new, birds in so short a time, that we completely overlooked our cameras, and therefore planned our picture taking for the next day.

On the following morning, everyone was there, bright and early, but after a long wait, with no birds forthcoming, we began to wonder, feeling certain that the birds were there, for at least fifty had left the chimney the morning before, after we had removed the trap thinking all were gone. Also, the Parson had seen a great many return to the chimney the night before.

Using a reflector for lighting, we could see that there were some birds in the chimney, so we built a light fire at the base—no birds. We then weighted a cord and let it down the flue, tied a crumpled newspaper to it and dragged it up to the top—still no birds. Nothing we could think of would start them and there was nothing to do but wait. As the outer air warmed up under the rising sun, suddenly the birds started. However, there were but a few, and only one wore yesterday's band, for alas, we had come in the eleventh hour of the last day of migration; no other swifts having been seen there or elsewhere about, since. We wondered, too, if swifts migrate at night, as we believe that many more entered the chimney the night before than came out in the morning.

Since there were so few birds, we took the time to enjoy playing with them. Miss Constance and the boys tried wearing them either singly as a brooch, or collectively as a breast plate; and always the birds snuggled down as though perfectly willing to join the game, provided their naps were not interfered with. Finally some passing school girls were adorned with live breast pins to take home for show, while several birds, clinging to Constance's coat rode many blocks in the car, and, scolding, had to be dragged off to their liberty.

Waseca, Minnesota.

SOME RETURNS FROM BIRD BANDING

BY MRS. MARIE DALES

No one but a bird bander can know how eagerly I awaited the coming of spring, and the returning birds, some of them banded by me the previous year. How many would come back to the old familiar haunts? Would my Catbird with a squeaky voice, return to take up his singing post in the little tree near my breakfast window, and sing his heart out to the same mate of the year before? Return he did, in the meantime his voice had become normal. I was not able to determine whether he had the same mate, for he did not come back to nest in the same place, consequently I lost trace of the pair.

The number of returns was somewhat of a disappointment. Out of 170 birds, or 17 species, only 12 individuals representing three species returned to my traps. They were six Robins, five Brown Thrashers, and four Catbirds. These 12 individuals repeated 46 times during the season.

My first return, a female Robin was the first Robin I banded the previous spring, a truly interesting coincidence. The next return Robin were a bright and shiny band: here, I thought is a bird that has been banded on his way north. Imagine my surprise when I found that he was one of the first birds I had banded. How he had managed to keep his band so fresh and clean, I do not know. It leads one to believe that some birds are especially tidy in their habits. Repeatedly I saw four other species, that I am quite certain were birds of my banding. There were two other returns, one a male Robin which met death as he flew into a wire clothes line in a neighboring yard, the other a Brown Thrasher, caught in a rat trap under a porch at the home of Mr. Kirk, on Gilman Terrace. A wire netting surrounding an old tennis court at 110 Twenty-fourth street, I am reasonably sure was responsible for the death of two other birds of my banding, a Catbird and a Yellow Warbler.

Each spring there is a period of warfare between the Bluebirds and the Purple Martins, which finally subsides as each become engrossed with family affairs. When the Bluebirds retired to the woods with their first brood, the martins became imbued with a "when-the-cat's-away-the-mice-will-play" spirit, and did such unusual things, they alighted on the sparrow trap, and on the pedestal food table, they waddled around the court, loking much like a small boy wearing father's long coat. Twice I chanced to be looking as one entered the Bluebird box; in each instance I was fortunate in catching the bird before he got away. Each bird was presented with a shiny band. These two were the only martins I was able to band, for all of a sudden they reverted back to their former mode of living: not again did I see one alight on any low object as they did during the short period of reveling. Try as I would, I could not trap another martin by any method.

Throughout April great numbers of Cedar Waxwings came and went. I tried every kind of bait that I had ever heard of, but I was not successful in trapping a single bird. One morning six sat in a row on the fence, and looked so longingly at the water in the pool, but they dared not brave the trap. One pair has nested in this locality for the past three years. I have not been so fortunate as to find the nest. In August of each year I have seen a young Cedar-bird in my yard. Last August I was fortunate enough to see one go under the trap. I was so excited I could scarcely pull the string. I know now what is meant

when a hunter says he had buck fever. This was the only Cedar Waxwing I was fortunate enough to band.

Last year I was quite sure that my happiness would not be complete until I had banded a Meadowlark. One old fellow strutted about the place all summer, never once deigning to go near the traps. Imagine my delight one warm day last spring when he walked under the trap and I pulled the string. I was not so delighted a moment later when he gripped my thumb in a vise-like clutch that drew blood, besides his unpleasant and wicked grip I discovered that he was covered with vermin. I banded and released him with dispatch, I assure you. Later in the season I got his wife and two babies. They were better behaved. Often, during the summer I saw the male walk around the pool, never once daring to venture under the trap. I regretted his reluctance for if ever a bird needed a bath it was he. In a trap on the fence I kept nesting material, cotton, string, and colored yarns. This has proved to be the best kind of bait for Orioles and Kingbirds. By this method I was fortunate in trapping the two female Orioles, Baltimore and Orchard. A pair of Arkansas Kingbirds nested in an elm just across Kennedy Drive. They helped themselves quite freely to the nesting material. One day I thought I had him, but he proved too quick for me, after that he very cleverly saw to it that I did not have another opportunity to pull the string on him; he reached in from the outside and got the material he wanted. I failed in my attempt to trap and band these birds.

Later a male of the other Kingbird came into the B trap, when I discovered him he was flying around under the top of the cage, imagining himself a prisoner, he did not have the sense to drop down and go out the way he came in. He was very angry about his humilitating experience. While being banded he displayed his orange crest. An immature Kingbird came into the same trap a little later. These were the only birds of this species to receive bands.

Usually I keep a crust of bread floating in the pool. One day I chanced to see a female Grackle going in for some of the moistened bread. I pulled the string, trapped, banded and released her. Half an hour later the male came. He picked up a dry crust near the sparrow trap, took it over to the pool and dipped it up and down to moisten it. He too received a band.

In the fall of 1924 I banded twenty-eight Harris's Sparrows. On May 12 the following spring only two of this species presented themselves at my trapping station, neither one of them being banded.

Only twice have I seen a real sick looking bird. The first one was a male Cowbird, with ill kept and ragged plumage: after a bath he flew to a nearby tree, where he rested for a long time. The other was a Chipping Sparrow, three toes of the left foot, the outer toes of the right foot all missing. The tip of the lower mandible was gone, and the upper mandible broken off almost back to the nostril. Its plumage was ill kept. There came under my observation an immature Bluebird with a deformed foot. The claws on the outer toes of the right foot, and the first joint of the middle toe were missing. The remainder of the toe was doubled back on the ball of the foot. One day three immature Catbirds came into the trap at the same time, all of one brood, apparently. All had slightly longer and decidedly hooked upper mandibles. Two of them repeated the following day.

I have noted Robins with no white in their tails some showing the faintest trace, a few others with the white graduated on five feathers on each side of the

tail. One Robin had a perfect fan-shaped tail with the ordinary white marking on the two outer tail feathers. In a few specimens the white eye-ring was absent, in others it was very pronounced. One brood of young Thrashers were of a decidedly darker shade of brown in plumage.

The past year with its high winds, hail, and heavy rainfall, proved most disastrous to nests and young birds, and to adults as well. The Mourning Doves suffered particularly, their nests being so flimsy. One pair finally took possession of an abandoned Robin shelter, which in this particular case did not better conditions any, for the teriffic hail storm late in September so frightened the young birds that they hopped out of the nest. I found one of the young birds that same night, brought it into the house where I kept it till the next morning, when I banded and released it. That same morning my neighbor found the other bird, all but dead, a victim of the raging elements. Later in the day I found the mother Bluebird, dead, both wings broken by the hail.

My experience in bird banding has raised this question: Do the adult birds go south in advance of the young? In 1924 I banded all birds on the right leg, in 1925 on the left leg. Toward the latter part of July and August, it struck that I very seldom saw a bird banded on the right leg, either in vicinity of my traps, on my walks in the park close by, or afield. I believe the theory has been advanced, that they go into seclusion during the molting period. Why, then, did I not see them in the secluded places? On the morning of August 27, as I idly watched the congregating martins I became conscious of the fact that there were so few full plumaged males among them. In a flock of one hundred there were but seven. Did the majority of the males go south earlier?

What returns from 383 birds banded in 1925, will the coming spring bring in its wake?

Sioux City, Iowa.

NECROLOGY

Leroy Titus Weeks was born February 1, 1854, at Mount Vernon, Iowa. With his parents, he removed by covered wagon to Osborne, Kansas, in 1872, in which neighborhood his life was spent until he returned to attend Cornell College, Mount Vernon, from which he received the degree of B. A. in 1883. He was ordained to the ministry of the Methodist Episcopal Church and spent two years as a home missionary in the Salmon River Mountains in Idaho. He was married to Ida Anna Alborn at Smith Center, Kansas, in 1894. After her death, in 1913, he married Ada Pauline Kuhn, of Evanston, Illinois, who survives him.

As an author, Dr. Weeks published two volumes of poems and a Handbook of the Sonnet. At the time of his death he was contemplating the editing of another book on the Sonnet, an anthology of bird poems, and a handbook of Grammar.

Dr. Weeks may be accorded a prominent place in Iowa in two fields of activity; that of the poet and that of the ornithologist. It is the purpose of this sketch to treat of him in the latter field. He was not only a bird lover, but a bird student. He was indefatigable in his efforts to get out in the field and get his knowledge of birds first hand. The migration season found him in the field a great deal of the time, and despite his years, he would tire many a younger

man on these tramps. It was only a year ago when he told me of having walked nearly twenty miles taking the Christmas Bird Census which is sponsored annually by *Bird-Lore*. He was then past seventy years of age.

It has been my great pleasure to go with him on several early morning hikes in the field, and I can see him yet trudging along beside me, each of us holding an end of a stick in the middle of which was hung a suit-case containing bread, bacon, eggs, a skillet and a coffee pot with which we intended to breakfast. We never paused to rest but attention was given to some bird note, or some sudden movement in the underbrush nearby.

Those of us who frequently attended the sessions of the Wild Life School, or of the Iowa Ornithologists' Union can never forget his personality, and the personality which he put into the meetings. His spirit and enthusiasm were highly contagious, and we felt for him a genuine love and affection, as well as veneration for his years and experience.

The American School of Wild Life Protection will continue, and the Iowa Ornithologists' Union will meet again and again in its annual meeting, but in each there will be a change in the atmosphere; he who was before a vital, forceful presence, is now a most cherished memory and we shall speak his name with reverence.

Since news of his death came to me, I have thought often of the inspiration he has been whenever I met him or heard from him, and these lines from his "Ode to the Bobolink" I have repeated to myself again and again, and I am constrained to quote them here in closing:

"Pinklety-panklety-punkle-pinkle,"
So his broken revels sprinkle
O'er me till I catch the sweetness
Of the season's rich completeness,—
Till my soul escapes its keeper,
Leaves the earth, and soars to deeper
Vasts of light, by wing unaided,
Where bird and earth are hushed and faded.
And upon my inner vision
Breaks the glow of fields Elysian,
While from hosts of the Eternal
Comes the symphony supernal,
And those songs I lisped and stuttered
I hear again divinely uttered.

His life was one of a wide range of interest, and of varied experience. We bird students and bird lovers never came in contact with the man but we came away feeling that we had drunk at a spring of never-failing enthusiasm and inspiration. How we shall miss him, only those of us who knew him well can know. To me, his going is as if he had simply stepped over the brow of a hill, field glass in hand, bent on investigating some new tract of territory, his eye fired with eagerness, his jovial face lighted with a smile of anticipation.—Chas. G. Spiker.

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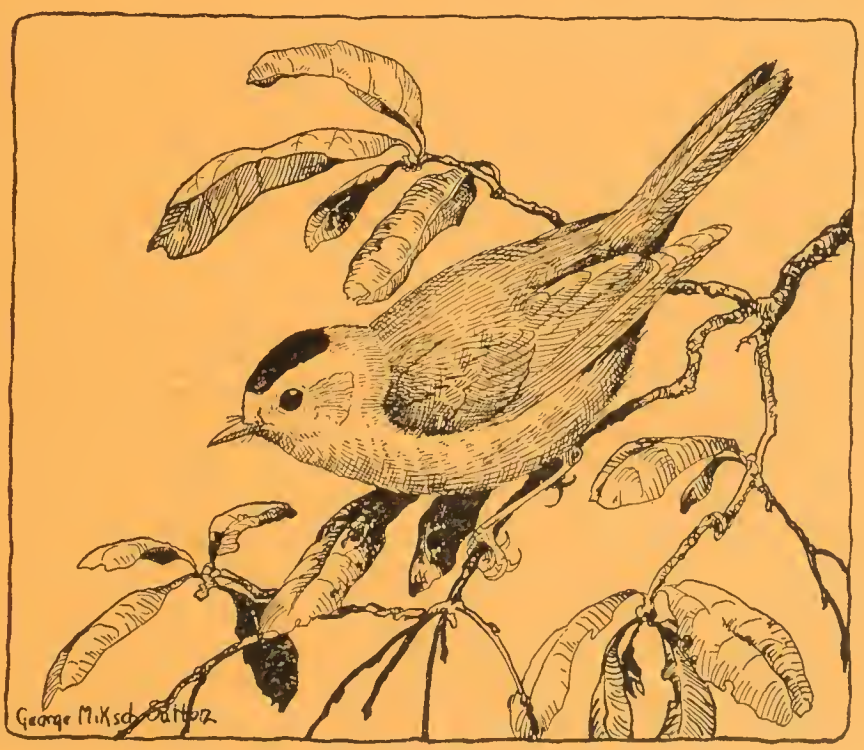

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PRAIRIE HORNED LARK

From a Painting by George Miksch Sutton.

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FLOCKING, MATING, AND NEST-BUILDING HABITS OF THE PRAIRIE HORNED LARK

BY GEORGE MIKSCH SUTTON

The Prairie Horned Lark (*Otocoris alpestris praticola*) is a fairly common but local permanent resident throughout Pennsylvania and the Panhandle of West Virginia where the writer has studied the species during the past thirteen years.

During winter it is usually found in flocks in open fields or on windy hill-tops. During seasons of heavy snow it often frequents the roads in the rural districts where it feeds upon waste grain and horse manure. These winter flocks assemble shortly after the nesting season, and the smaller groups are probably composed of parent birds of the preceding nesting season with their broods of young. No definite data are at hand as to the average number of broods produced by each pair in the present region; but that two broods are usually reared is well authenticated; and it is probable that a third brood is sometimes launched before the advent of chill autumn weather. These broods remain with the parents for some months, often until the following mating season, at which time a complete breaking up occurs.

Many family flocks sometimes assemble in a chosen field or hill-top for the winter season. Such flocks sometimes number several hundred, although usually but twenty or thirty are to be found. Flocks observed near Harrisburg, Dauphin County, Pennsylvania, were large: on March 5, 1927, over four hundred were counted in one field. In late January, 1922, a flock was seen on the plateau above Beaner's Hollow, near Beaver, Beaver County, Pennsylvania, during a cold but snowless period. Here in an exposed field was a flock numbering a hundred or more. Part of the field was green with shoots of winter wheat; part was rather sparsely strewn with straw and manure, and part was bare and rocky and gone to waste. A large barn with much straw about it stood at one edge of the field, and here the flock spent much time feeding. When first noted all the birds were together

wandering about over the ground, searching busily for food. So protectively were they colored that it was almost impossible to keep more than one bird under observation at a time, since to move one's eyes from a bird meant to lose it altogether. Their plumage was fluffed out to retain the body heat and some of them stood much of the time on one foot. When first disturbed the whole flock rose simultaneously. their fluttering wings producing a peculiar explosive sound. With a fine-toned note from each bird upward went the whole mass, higher and higher, in wide circles above the field, seemingly intent on leaving altogether. Suddenly, and in a flock, twelve birds left the mass and descended to a distant corner of the field. This flock remained separate during several hours of observation that day, and other small flocks of a similar number which left consequently also remained separate. There may be evidence of an instinct for self preservation in this breaking up, if the birds have come to believe that they are safer on the ground by themselves, than flying in the flock, when pursued.

The actions of this large flock were typical. Once the large mass was disturbed the birds were not found together again, and by the end of the day only small flocks were flushed. On the following day the same flock movements were noted. When undisturbed the flock remained together from morning until night, for during winter Prairie Horned Larks are very sociable.

Only once have I had the pleasure of witnessing the awakening of a flock. The dainty creatures left their roosts beside or beneath little clumps of grass to mount pebbles where they preened, shook and smoothed their plumage. Soon they began to eat, and the search for food continued almost all day. Such a large flock must rather effectively remove the weed seeds from the surface of a given area during a winter's occupancy. Apparently they did not scratch or dig with their feet, although the toe-nails of specimens taken from the flock were decidedly worn from treading the frozen ground.

Occasionally an undisturbed flock circles about the field several times merely for exercise, and settles near the place whence it started. It is remarkable how suddenly and yet how simultaneously the whole flock moves; and how accurate every wing stroke is. Yet individuals sometimes lag, and the excitement or fear of the individual left behind is sometimes amusing. I have seen two birds thus left behind mount clods and watch the flock with necks stretched high, twittering as though they could not follow. They were perfectly able to fly; perhaps they simply had not obeyed rapidly enough some flocking instinct or the command of a leader.

The ease of flight of these birds is a matter of common knowledge; but when they move off but a little frightened, and glide along the ground in long, sweeping curves, their grace rivals that of deliberate swallows.

In mid-morning if the sun becomes warm activity slackens somewhat, and they may be seen standing on one foot on a stone, or hunched up on the turf with eyes partly closed. The incessant low twittering subsides as from some remote part of the field drifts a snatch of the spring song, uttered from the ground. Usually at this season the "horns" on the head are not very prominent, because the plumage is unworn, and is so fluffed out that such protruding tufts are not visible.

The winter call-notes are usually of one or two syllables, and are low and gentle, suggesting at times that the bird is timid or exhausted. The notes are clearest and loudest during flight, just before the flock alights, in this respect resembling the din made by the huge clouds of Longspurs of the mid-west, as they settle in the grass. Individual birds, apart from the flock, usually utter louder and clearer notes also.

Disbanding of the winter flock occurs gradually. In West Virginia large flocks were in evidence until the fifteenth of February. In many parts of Pennsylvania mated pairs have been noted as early as February 20. It is probable that fully adult birds mate first, and that the flocks which wander about the fields after certain pairs have segregated themselves are composed of young birds of the previous season. Thus at Duquesne, Allegheny County, Pennsylvania, three mated pairs were seen on February 17, 1923, while a flock of fifty birds remained together nearby. I did not note any difference in age in specimens taken from the mated pairs and the flocks on this date.

It is my belief that Prairie Horned Larks often mate for life, for I have noted birds with recognizable mannerisms on favorite nesting grounds season after season. If such constancy is characteristic, it is not surprising that no great demonstration occurs in the winter flock when established pairs decide to start nesting operations.

Song must not be an important phase of the incipient stages of courtship, else a late winter flock with rival males in full song would long have been famous in our bird literature. In mating, a certain amount of subdued quarelling sometimes takes place, mainly tussles fought on the ground seasoned by quick flights and occasional wrestling either in the air or on the ground. I have seen three males chasing each other wildly for a short time; but when they alighted their manner was instantly gentle and impersonal. I believe the birds are es-

sentially pacific and that males, rather than have a prolonged fight over a certain female, give in to a chosen one, and search elsewhere for a mate. This is particularly true, perhaps, where large numbers of females are present.

With the dispersal of the flocks the more delightful elements of courtship become evident, most notable of which is, of course, the flight song. This performance is so well known that no description is needed. Song phrases uttered on the ground seem to have exactly the same number of syllables and the same rhythm as those given in the air. But the flight song is more ecstatic in its feeling because of the increased enthusiasm of the singer and the rapid repetition of the phrases, which transforms the whole performance into an almost continuous outburst of melody. Occasionally this same continuous song is delivered from the ground, or from a fence post. During winter it is unusual for a lark to use a perch higher than a mound of snow or a mere pebble; but during the courting and nesting season, a fence post, rail, or even a telegraph pole may be used. I have never seen one alight on any leafy bough, bush, or wire. Among more than four hundred mated pairs which I have observed, there was but one in which the male did not deliver a flight song. This bird was apparently satisfied with a short warble from a clod or stone, and though he was observed for an entire season, he was never seen singing in the air: possibly he was a cripple.

There seems to be a relation of the wing beats to the opening and closing of the song phrases. To the observer it is evident that the flight of the bird above him is not direct, but deeply undulating, and also that the wing beats are not regular. Apparently there is a rhythmic falling of the body which is retarded by two or three wing beats, and then a climbing up again with a series of rapid beats or flutterings, the whole process being repeated with each phrase of the song. Sometimes these flights are made in wide circles which cross and recross many times; sometimes they are made slowly in one direction for the length of the field and back again; and then again, in windy weather, the bird may remain in the same position above the field although he is ever flying forward. Closely as I have watched and listened to these songs I am not certain that the rapid, ascending close of the song-phrase occurs simultaneously with the fluttering, climbing movement of the flight, since I have always believed that the sound reached my ears more slowly than the impression of the bird's movements reached my eyes. Certainly, however, the impression is given that the wing beats correspond to the *tempo* of the music. The song-stanza has two or

three distinct parts, the first two being repetitions of a double note often given on the ground, and the last being the ascending warble referred to above. The song may be described as *tinkling:* and although it is sweet and delicate, it can hardly be called glorious. The flight song, however, possesses an undeniable sublimity as the bird swings back and forth in wide circles, so far above the listener that it is sometimes almost out of view!

Photograph by the Author.

Figure 1. Prairie Horned Lark's Nest at Schenley Park, Pittsburgh. Note the scant lining of grass.

The part which the female plays in the courtship is slight, although occasionally I have heard her answer the male's full song with a bright snatch of her own. She never, so far as I have observed, mounts a stone or clod to sing, and the notes she gives are short and weak. While the birds are on the ground near each other their attitude is usually that of devotion and if there is any sparring it is short-lived. The male seems to follow the female wherever she goes; but their regard is mutual. A male in the Schenley Park race-oval at

Pittsburgh followed the female for two hours while they were feeding. When we approached the male too closely he flew to another part of the field and the female followed him arbitrarily, for we were not near enough to disturb her.

Mating takes place in early or mid-March, according to the advancement of the season. During an early warm spell the female may decide to build a nest, heedless of the effect of subsequent snow or storm. Some observers have averred that the first nest is often more warmly lined than the second. Although the coldness of the season may determine this feature somewhat, I believe that more care is taken with the first nest and that it may therefore be more warmly lined, simply because more painstaking work is done before the onerous duties of brood-rearing have been assumed. Thus, second nests of Crows and Blue-Gray Gnatcatchers which I have examined were neither so carefully built nor so well lined as those built first. Furthermore, the availability of material certainly often determines the character of the lining of the first nest. Thus a first nest found not far from Bethany, West Virginia, in 1915, was beautifully lined with thistle-down, some feathers and a little moss, held in place by grasses, whereas a first nest found in Schenley Park race-oval, Pittsburgh, in 1922, was rudely lined with coarse grasses, without a hint of any warm, soft material. (See Figure 1). These two nests were built during the third week in March, and the seasons for the most part were similar, that at Pittsburgh being somewhat less windy and more rainy. However, nests of the Labrador form, *Otocoris alpestris alpestris*, are obviously lined for warmth, since soft material used in the lining of several nests found at Battle Harbor and Indian Harbor, Labrador, during the summer of 1920, was gathered at a great distance from the nest.

The female decides upon the nest-site apparently without aid of the male. A natural cavity in the ground is sought, yet admirably situated depressions are often passed by for some bald spot which better suits the inclination of the bird. (See Figure 2). The female pecks, scratches, and kicks out the dirt rapidly and determinedly. She usually finds nesting material very near at hand. She rarely flies but prefers to run about as she selects grasses and weed fibres. The lining of the nest, in the present region at least, depends almost entirely on material which is most easily available. The female does the nest building unaided by the male, although he is usually near.

Photograph by William P. Chandler, Duquesne, Pa.

Figure 2. Prairie Horned Lark Nestlings.
Note the baldness of the nest-site.

Photograph by William P. Chandler, Duquesne, Pa.

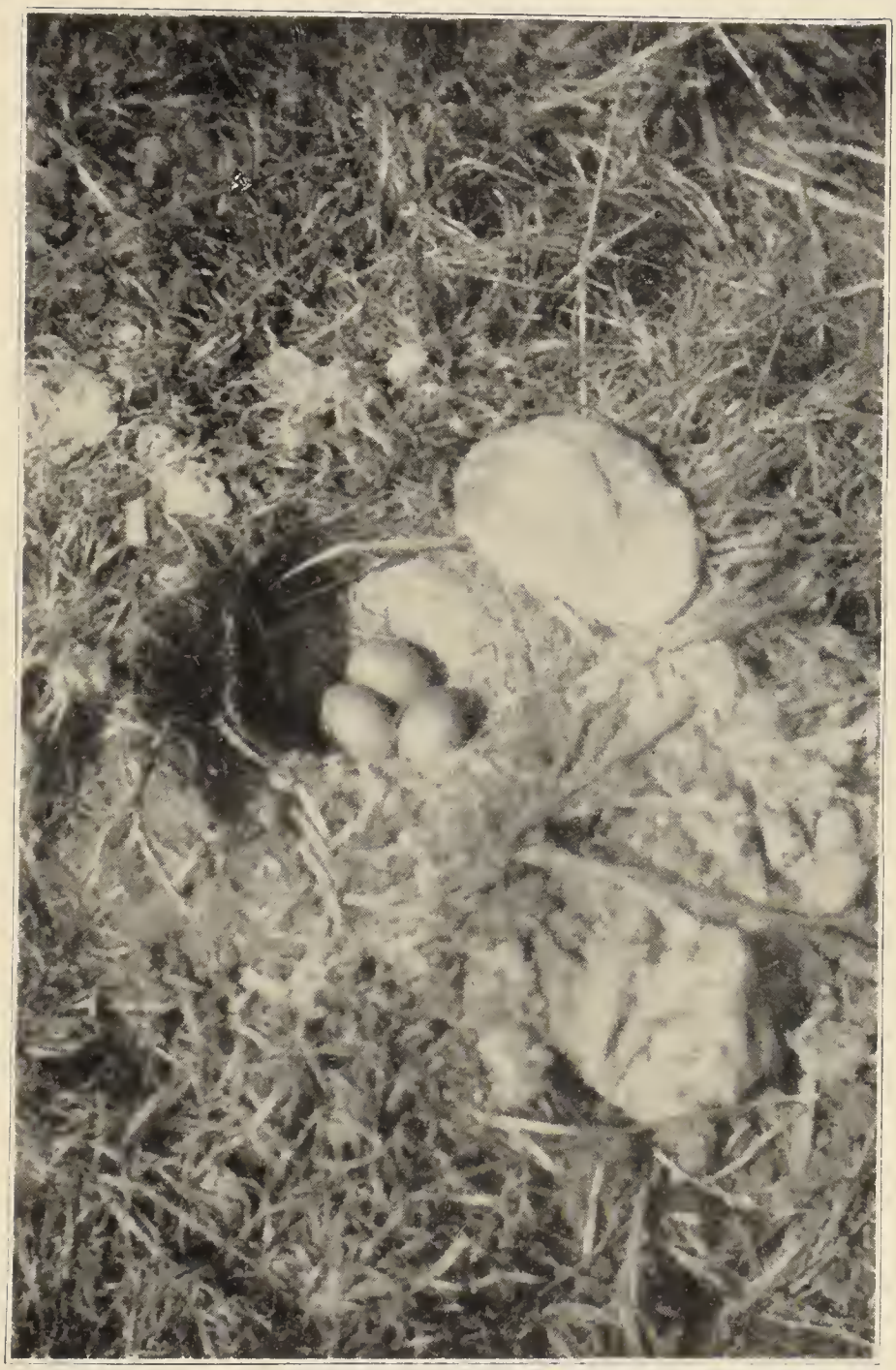
Figure 4. Male Prairie Horned Lark Feeding Young.

Mr. William Chandler of Duquesne, Allegheny County Pennsylvania, located a female bird building her nest on March 18, 1923, not far from Duquesne. When first observed, she was pulling up and shredding weed stalks which were to be used in the lining. About the nest was a rim of loose earth which had been pecked and kicked out by the female bird. This nest held a full set of three eggs on March 24. (See Figure 3).

On March 25, 1923, I discovered the nest of another pair, only partly built, not far from the one referred to in the preceding paragraph, in the very center of a ba eball diamond. Here the female was working busily while the male walked about unconcernedly. The bird dug at the earth with her bill, and kicked the loose material out with her feet. The constant annoyance of boys caused these birds to desert.

The pair I watched most constantly had a nest within the racetrack at Schenley Park, Pittsburgh. This pair lived together the year round, for they were found in November, January, February and March, ever together, and never with another individual near. From them I have learned how cleverly birds may act, as a result of reason or instinct, in keeping their nest-site a secret. Most remarkable was the manner in which both birds feigned unconcern. When I was within a few feet of the nest in 1922, neither bird paid attention to me, save, perhaps, in seeming to hunt food a little more assiduously. During previous seasons I had wondered why they never made outcry over me, as birds generally do; but it seems not to be Horned Lark nature to do so. During the spring of 1922 the female so rapidly built her nest, and so cleverly feigned disinterest after walking from the nest, while I was yet afar off just entering the field, that I was certain she had not yet built at all! Perhaps the birds realize that human beings are acquainted with the crippled wing ruse of such species as the Killdeer and accordingly have decided to use other tactics.

During several visits in March, 1920, when I entered the field, the male bird always met me. He did not fly to meet me, else I should have searched the ground whence he came; he was simply there. Usually no female was in sight. Then, after observing him for some minutes I would hear a soft twitter, and looking about would see the female calmly searching for food not very far from either me or the male. I finally decided that when I first entered the field the female was on the nest; accordingly when the male met me I purposely did not watch him but walked rapidly over the field hoping that I might flush the female: but invariably when I returned to the male the fe-



Photograph by William P. Chandler, Duquesne, Pa.

Figure 3. Nest and Eggs of the Prairie Horned Lark.
Note the warm lining of plant down.

male had joined him. The male was the tamer of the pair. Occasionally I was within ten or twelve feet of him and could observe his slightest movement. I fully believe that though he went through all the motions of eating, he never swallowed anything while he was being watched near the nest. And the female, though at a greater distance from me obviously merely looked here and there while walking through the grass, scarcely even pecking as she went along.

Sometimes the pair, without warning, would suddenly leap into the air and bound out of sight into the sky, always toward the east. At such times I was so disheartened that I often gave up search after I had vainly waited for their return. Upon one occasion, however, keeping the general direction of their departure in mind, I moved to another section of the park, and was surprised to find them quietly searching the ground on the golf links. They seemed in no hurry to leave, and I decided that either they had no nest, or that it was at the links instead of on the oval. Consequently I gave up observing them for a while, and descended the hill. In less than five minutes I heard a familiar note above me and, looking up, saw the larks flying slowly back to the oval. I hurried over the intervening hills to be greeted by the male sedately sitting bolt upright on a little tuft of grass, with horns erect. He chirped loudly and indulged in a song or two; no mate was to be seen. I saw that he was determined to remain stationary until I approached, so I went up to him slowly. At last he flew off and having alighted sang two or three quickly repeated stanzas of his song. Behind me sounded an answer from the female. Upon looking about I saw her not fifteen feet from me, searching for food in the grass! I have learned that much of this is clever ruse, and so successful is it in keeping the location of the nest a mystery that one is forced to wonder at such sophistication.

On March 31, 1922, after enlisting the aid of my friend, Mr. Rudyerd Boulton, I again took up the matter of finding the cherished nest at the oval. After coming to the race track, we took a position near each bird and watched closely. They did not stay especially close to each other, and were more nervous than usual. Finally the male flew off and was joined by the female, who followed the opposite side of the race-track in reaching him. The male sang briefly. In the dusk we lost sight of the female as she glided between the grass. Close observation failed to reveal her, so I suggested that my companion try to flush her from where he had last seen her. On my knees I watched the sky-line. While my friend was scanning the ground at his feet carefully, I saw a bird fly from the grass some distance to his

left. It was the female. She continued running in the same direction she had taken in flight, and disappeared behind a rise of ground. I thought she had left her nest, so ran quickly to the spot whence she had risen. Prolonged search was fruitless. Suddenly it dawned on me that the bird flushed by Mr. Boulton had probably been waiting for a chance to return unobserved to her nest. Consequently we decided to tramp around in wide circles in an attempt to flush her again. Then, clearly through the shadows came the clear, full song of the male bird, opposite; richly and sweetly he sang, and with unusual vigor for a bird stationed on the ground. It occurred to me immediately that this was evidence of unusual interest upon the part of the male. Suddenly there was an explosive flutter of wings ahead of me, and I knew the female had flushed. I walked directly to the nest; there were three eggs.* The cup was deep, and narrow at the top, and the edge firmly rimmed with short grasses and dandelion plants not yet with buds. The female, after alighting about twenty feet away, joined her mate in a far corner of the field, and did not return during our short sojourn.

The flushing of the female bird from the nest was unmistakable, the sound of the wings being totally different from that produced in starting normal flight. The male's song ceased immediately, and we flushed him from the grass as we left the field. On the following day the nest was deserted. A heavy rain filled the cup with water, which would not drain off due to the non-porosity of the clay.

All these tactics were repeated, for the most part, by birds in a large open field near Hartstown, Crawford County, in the case of a second nest for the season found in the third week in May, so I am inclined to regard them as typical.

State Board of Game Commissioners,
Harrisburg, Pa.

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*See Cardinal, No. 8, July, 1926, p. 18.

NOTES ON THE HOME LIFE OF THE TURKEY VULTURE

BY RUSSELL MARSHALL KEMPTON

On a May day in 1921, while hunting the Crow (which is very destructive to our song birds' eggs and nestlings) I flushed a Turkey Vulture. As it arose to flight from the ground. I investigated and found a nest in a hollow maple tree containing two young Turkey Vultures a day or so old.

This nest is located in a sixteen acre tract of woodland, (returning to virgin state as it has not been pastured for a number of years) on the John L. Kempton farm, Wayne County, Indiana, southwest section eight, township sixteen, range fourteen.

The nest is in a live soft maple tree, whose trunk slants on a sixty degree angle east by north and has a southern exposure; inside dimensions of the cavity are diameter twenty-eight inches; height, forty-two inches and its bottom is about forty inches from ground. The top of the eavity is closed by dry decayed wood. The surrounding ground is swampy and during wet seasons water stands thirty inches deep around the base of the tree.

The nest is unlined, and eggs were deposited on clean broken up punk, which the parents broke from sides and top of cavity with their beaks. It was always clean (also the ground around the tree), from the time the eggs were laid until the nestlings left the nest. No offensive odors were noted during the five years of observation, (except when the nestlings would regurgutate for me).

This nest has been used each year since 1921. I had no way of knowing whether it was the same pair who returned each year, until 1926 when through the kindness of Mrs. Percival Brooks Coffin I was supplied with bands.

In 1921 the two week old nestlings were discovered dead in the edge of a cornfield adjoining the woodland. They were killed and carried there by hunters or animals.

In 1922 the two nestlings matured. The 1923 youngsters, one matured, and the other was killed as in 1921. In 1924 the pair matured and left the nest in late August.

In 1925 the following observations were recorded.

The parent birds arrived in the last week in March. The two eggs were deposited April 24 and 26; they were elliptical ovate, and about three and one-half inches by one and three-quarters inches, one being slightly smaller. The color was greenish-blue with irregular clotted blood colored spots on each end. The eggs lose their color

during incubation, becoming lighter to a greenish-blue grey. The change is partly due to the oils from the brooding bird's breast, and partly to changes within the egg. Brooding began immediately after the second egg was deposited. The birds were tame and often did not leave their nest if approached quietly. The mother bird did not leave the nest during last week of incubation and could be handled. She was pugnacious by regurgitation of her meal, which is re-eaten from the nest after one leaves.

The two nestlings were hatched May 24. They were about the size of young goslings, covered with thick, light egg-yolk yellow down. The head was naked; a line about three-quarters inch extended down the throat to the naked breast bone. Down started to grow on the head after twenty-one days, making a white cap which does not disappear until bird reaches maturity. Black primary feathers appeared at the end of four weeks, while the breast and top of head were still covered with down. The tail feathers were slower in developing than the wing feathers. The young matured slowly. They were tame and could be handled without much ejection. Both parents fed the young by regurgitation.

These nestlings left the nest on August 20, and after a bit of tree climbing, flew, leaving the woodland on September 1. The white cap of down was rather noticeable at the age of eighty-eight days. Before flight, they climbed the slanting tree trunk using wings, beak, and tarsus, with talons as hooks.

The following observations were made in 1926.

The parent birds arrived March 18, and used the same nest to roost in during the cold wet spring. On several occasions during daylight in April, I found them in the nest standing with heads together, and they did not fly when I approached within ten feet of the tree. Visiting the nest on April 28, I watched them preparing the nest. by pulling at the dry rotten wood on the side walls of the cavity with their beaks. When a large piece came lose the female would hold it down with one foot and tear it into small bits, which she spread about on the floor, where the eggs were to be deposited. The interested male bird, was a hindrance in nest making, and every now and then the female placed her head under his breast and pushed him out of the way. Once he tumbled out of the tree. However, undaunted, he clambered back keeping his head down, so that his mate could not repeat her attack, and more in the way than before. But just at this time they discovered me watching and flew. The sudden beating of

their pinions on the air made a swishing noise like escaping steam from the safety valve of an engine.

The eggs were laid, one April 29, and the other May 2. Hatched May 30. The young were vigorous and combative, jumping at me. hissing, throwing their vile breath, regurgitating and exuding, whenever they were disturbed. The first primary feathers were visible on June 14.

The nestlings' method of locomotion is similar to a crawl, as they do not stand on their feet like our domestic fowls, when hatched. They use the tarsus, with toes spread, and balance themselves by the tips of their wings in moving about, as if they were a four-ooted creature. As the bones and muscles develop, they gradually rise to a standing position, and on leaving the nest on July 26 they climbed up the slanting trunk to a short limb just above the nest. There they were found sitting side by side during the day until August 5, when they flew from the woodland.

I will give the following description of the young birds on July 26: Color, grayish brown, wings and tail quills toward tips almost bright black, bill grayish black, legs and feet a light green gray. White down was scattered throughout the feathers. The wing-spread was about forty-eight inches. One weighed six pounds, the other four pounds four ounces. The lighter bird had a more vicious disposition, and the other was sulky.

The young vultures were photographed August 5, 1925, by Miss Hilda Olson, of Arlington, Massachusetts. However she obtained but one successful photograph because the light was poor and she attempted to secure them while the birds were in the nest. On July 26, 1926, Miss Olson photographed the nestlings. This photograph shows their immature and strange appearance. They were removed from the nest and carried one hundred yards away to a fenced enclosure, because the light was too bad for them to be photographed on the limb just above the nest. They were unruly and ran at a fair rate of speed for the cover of weeds and bushes when they were put on the ground. They were very awkward, wabbled and easily lost their balance, but did not attempt to fly. The four pound bird acted very like a pugnacious sitting hen, putting all of us to flight at times. The other bird sulked, with his head tucked almost between his legs, but was quiet.

Before photographing the young vultures they were banded by Miss Olson, assisted by Miss Kempton, and Mr. Jno. L. Kempton of Richmond, Ind. Banding was under Mr. Percival Brooks Coffin's

license and the bands were numbers 320310 and 320311. The birds were just ready to fly when banded.

Since August 5, (the date of leaving the woodland) the parents and young birds have been seen on several occasions soaring over the farm. The caps of down of the young vultures were still discernible September 27.

During 1926 records were made of the parent vultures' activities in rearing their nestlings. Both birds alternately covered the eggs during incubation. When disturbed they flew overhead, and would come down as close to me as the bushes and tree branches allowed, with safety, say about ten feet, but, at no time did they try to regurgitate upon me from the air.

Wishing to ascertain the kind of food given to the young birds, I placed a freshly killed dog upon a brush pile near the nest. They did not disturb it. As far as I could observe their food consisted of all dead domestic herbivorous animals, almost all dead wild herbivorous animals and fowls in this locality; and a reptile was evidently a choice relish, because one dead snake will call fifty vultures, more or less, to the vicinity of its demise.

The pair of nestlings of the year 1925 were eighty-eight days old when they left the nest, and the ones of this year 1926 were sixty-six days old. The reasons for this difference I placed in the following order of importance: (a) A richer and more plentiful food supply in 1926 than during the season of 1925; (b) a better feeding of nestlings by parent birds in 1926—often during observations in 1925 I concluded that the youngsters were hungry; (c) a more vigorous male vulture.

The observations have been made and recorded without the aid of any knowledge of the work of other writers on this species.

This year (1926) I also found the location of another Turkey Vulture's nest on a nearby farm. It was in a large old sycamore tree forty feet from the ground. This tree was blown down during a storm and examination disclosed a hollow, near the top of the main trunk, similar to the nest near the ground in the Kempton woodland, but smaller. Continued observations will be carried on during 1927 concerning the activities of the pair of banded nestlings, and every effort will be made to band the parent vultures, if the same nest is used by them in 1927 or if they can be located elsewhere.

Centreville, Indiana.

THE AUTOBIOGRAHPY OF OTTO WIDMANN

I have been asked how I got my great love of birds, whether it is inherited or acquired. To this I can answer that my love of nature was inherited and cultivated in early youth, but my great love of birds was acquired in manhood. I do not know much about my mother, because she died when I was only ten years old; but I know that she loved gardening, for I was told that she worked in the garden on the day of the evening I was born during a thunderstorm June 15, 1841. My father was a nature lover and a devoted friend of everything beautiful in God's creation and as such admired the loveliest of all creatures, the birds, although he did not make a real study of them. He was especially interested in plant life and had collected in his younger years a large herbarium. Being connected with the management of the domains of the state, the grand duchy of Baden, he had opportunity to gather minerals on his tours of inspection and had in the course of time assembled a fine collection. He was a member of a club which met every evening from 6 to 8. Other members were also friends of animals and plants and when they learned of something unusual, told what they knew or brought specimens to the club, leaving them with those most interested. In this way my father brought home curiosities which made lasting impressions. One still vivid in my memory is the peculiar nest of a Schwanzmeise, Long-tailed Tit. It had been attached to the handle of a pump, from which it had to be removed when the pump was used. The nest was a curious structure, a real work of art, about eight inches long by four and one-half inches wide, a cylindrical bag, entirely closed with only one small hole on the side near the top; it was made of moss and leaves bound together by spider webs and lined with feathers and horse hair.

When I was old enough, I accompanied my older brother on his bird-egging expeditions. There were a few more boys of our age collecting birds' eggs, rivaling to find the most and the rarest specimens. The search for eggs brings great surprises and I remember well certain events, for instance, when I found, quite unexpectedly, the nest, with four or five eggs, of the Baumpieper, Tree Pipit. We boys were as usual somewhat scattered in going through the forest when I almost stepped on the nest from which the bird flew. It was a treasure, for it was the first ever found and the eggs were so different from all other eggs, a chocolate brown with markings of a darker color. It was in that same forest that we were remarkably fortunate in finding Cuckoo's eggs in other birds' nests. Most of them were found in the nests of

OTTO WIDMANN, IN 1921.

the Wren, and this is so much more interesting since the nests of the European Wren are globular affairs, built in between sprouts on trunks of old elm trees, a few feet from the ground. The question has been put forth, who was right, the one who says the Cuckoo sits on the nest or lays the egg on the ground and deposits it with its bill in the nest? An Englishman announced he would pay a certain sum to the person who can prove that the egg is carried in the beak to the nest. But how could a big bird sit into a small oven-like nest of the Wren? Impossible! And why should the Cuckoo not be able to carry the egg, which is remarkably small for the size of the bird, in its bill for a short distance? Other birds do it. The Whip-poor-will carries its two eggs to another place when it finds that somebody has discovered them.

When my father saw how interested we were in our egg collecting, he bought us a bird book, "Die Naturgeschichte der Voegel Deutschland's," von C. G. Friderich, often called "The Little Naumann," a book of nearly a thousand pages and over two hundred colored illustrations of birds. He also subscribed to the quarterly magazine, "Naumannia," then the organ of the leading ornithologists of Germany. I obtained permission to visit the Hofbibliotheke, the private library of the Grand Duke. Its chief attraction was the great work of Germany's eminent ornithologist, Professor Dr. Joh. Friedrich Naumann, published betwen 1820 and 1844 in twelve volumes with copper-engraved colored illustrations of all birds found in Germany. I was even allowed to take volumes of the valuable work home with me. Adjoining the library was the Naturalienkabinet, a small but good Natural History Museum. The bird line was well represented, but stuffed birds, as we called them, did not appeal to me so much as the living ones. For these I did not have to go far, for there was quite a variety in the Schlossgarten itself, among them the celebrated songster, the Nightingale. Adjoining the garden were the Deerpark and the Pheasantry, where Pheasants were raised. Besides these two places to which permission was necessary, was the Hardtwald, a forest of conifers several miles long. Deciduous woods were plentiful around the city and with the foothills of the Black Forest on one side and the River Rhein on the other with its many ox-bows, Karlsruhe was certainly and still is a fine place for the ornithologist. Two ponds where ducks were trapped in nets by means of decoys and a fox-like dog, ought to be mentioned, because a visit to one of these places is a thing not to be forgotten.

During the first twenty years after entering the drug business on April 1, 1857, I had neither time nor desire to cultivate acquaintance

with bird life. I had an innate bent for knowledge of natural science in general and my reading was confined to such literature. I never found pleasure in reading fiction; chemistry and botany occupied much of my time during the three and a half years of apprenticeship and the French language when clerking in Switzerland. As a student in the Polytechnicum in Karlsruhe, preparing for the state examination I had little time for extraneous work, but later when traveling I never neglected to visit the Natural History Museums and Zoological Gardens, wherever I was, Frankfurt, Berlin, Hamburg, Koeln, Brussels, Antwerpen, London and Paris. This helped me greatly in keeping up my interest in animals in general and in birds in particular.

My first bird in America was such a conspicuous beauty that it made a deep impression on my mind. It was in the summer of 1866, soon after my arrival in America, when I clerked in a drug store in Hoboken, N. J. It was a fine afternoon when I went with a friend for a walk along the Palisades toward Fort Lee when—lo and behold, a small bird of rare beauty crossed the road and alighted in a tree nearby. I stood in wonderment at the strange apparition, did not know its name but found out that it was an American Redstart, an old male, one of the most strikingly dressed members of the American Wood-warbler family. My next acquaintance with American birds was made in the fall of the same year at Savannah, Georgia. On my first day of leisure I walked out of town into the woods, when a Cardinal Redbird crossed my way and perched not far away in a tree. A Cardinal would draw the attention of anybody with an eye for beauty, but for me it was an event ever to be remembered. My next surprise was when on December 25, 1866, I saw swallows (Tree Swallows) flying up and down a crowded street in New Orleans, Louisiana. This was such an unexpected sight that I sat down immediately to write to my father the news that I saw swallows on Christmas Day! My fourth acquaintance was the Purple Martin. It was when on March 28, 1867, the steamboat on which I traveled from New Orleans to St. Louis reached Vicksburg where it stopped two and one-half hours. It was here that I noted in my diary, "Grosse schwarze Schwalben" (large black swallows), which afterwards I learned to know as our good friend the Purple Martin. On this ascent of the Mississippi River, which lasted from March 26 to April 1, I had my first opportunity to get an idea of the rich bird life along this river, for I noted ducks by thousands, geese, hawks, plovers, gulls, grebes, crows, and vultures.

Once in St. Louis I had no opportunity to commune with nature for many years. I had to tend to business, not eight hours of the day,

but sixteen hours, with only half a day off during the week and every other Sunday while a clerk, and nothing off while proprietor. It was in 1873 when I saw my first Baltimore Oriole. It came to a peach tree in my garden, when his strong whistle called my attention to him. The first male Baltimore is not easily forgotten and I did not forget him, especially since my young wife, too, had the pleasure of admiring his beauty and hearing his wild notes.

When after years of steady application to business I began to take life easier and allowed myself short walks into nature, which at that time was found not far away, I noticed birds which were entirely new to me but resembled somewhat in shape and behavior birds of Europe as for instance, Ammern, Buntings, Finken, Finches, Spechte, Woodpeckers, etc. I told my wife about it and expressed the wish to become better acquainted with our American birds, know their names and learn what others knew about them. She did not say anything, but when Christmas came, there were ten numbers of Jasper's Birds of North America on the table, a work that had begun to appear a short time before and was the first popular work to bring colored pictures of all the birds found in North America. This was on Christmas, 1874. She had subscribed for the whole work which took four years to be completed in forty parts, each part containing three colored ones, one plain plate and eight pages of text. I may call the acquisition of this work the starting point of my career as a bird student and therefore as a bird lover, because the better I became acquainted with birds, the more I loved them. From now on I tried to get away from home and business as often as I could in order to see what new bird I might find in a walk of an hour or two. My favorite place was a piece of timber less than a mile away from home. Many a happy hour did I spend on and about this place and learned how many different kinds of birds can be found on a small piece of ground when carefully looked over and frequently visited at all times of the year.

When I found that I could risk to leave my store an entire forenoon in charge of a clerk and apprentice, I extended my excursions to the River des Peres at the city limits. There in a piece of timber, by me called Giant Wood, because of its large number of giant trees, I found a real paradise for a bird lover. There were no street cars at that time running so far out and the place was therefore not easily reached, but my great love of birds, which had by this time reached a stage of real enthusiasm for finding something new every day, overcame all difficulties. It was a long walk, eight miles, but I knew no fatigue, because I had the best time of my life in that giant wood.

Although within the city limits, I hardly ever met a human being in that wood; it was undefiled nature, and what grand nature! Enormous trees of different species with a variety of lower trees and a thicket of shrubs and weeds to cover the ground. The Great Horned Owl was breeding in it; the Red-shouldered and Sparrow Hawk and the Mississippi Kite had their nests, and in migration time nearly every species found about St. Louis could be met with, in or around my giant wood. On the morning of a fifth of May I counted eighty species, fifty of them without moving from the spot on a bluff above the River des Peres.

At this time I used to carry a campstool, a drudgery in appearance but a blessing and a great help in the field, for to be successful in watching birds one must have patience and a camp chair is a keeper of patience. There are some species of birds which in spite of all patience and the best glass are almost impossible to tell apart in the field; to be sure one has to have such birds in the hand. It was therefore soon after I came in possession of my first bird book that I told my wife that, though I could identify most birds, there were some I should like to procure in order to study the details, such as measure, indispensable with some interesting species. Another Christmas came around and with it an elegant cane-gun, jet black, highly polished and an unscrewable handle, allowing the insertion of a small shell containing a number of fine shot. The pressure on a button discharged the deadly pellets, fatal to small birds at a short distance, but hardly able to kill a bird larger than a Robin. It was my wife again who thus helped and encouraged me in my bird study and I used my cane for several years with good effect until I loaned it to a friend and never saw it again. Fortunately another kind of cane-gun had been brought into the market and I became the happy owner of one. It was a heavier cane, shooting larger pellets out of a two inch reloadable shell. I had it until lost in the fire of my house in 1902. For larger birds I had a double-barreled shot gun, a Lefancheux, pin fire, which I had brought from Germany in 1872, but seldom used it. I hated to be seen with such an instrument of murder and it was too heavy to carry on my long walks. It, too, went up in the fire of the house in Old Orchard.

It was in April, 1889, that I quitted the drug business and moved into the country with the intention of putting my whole time to the study of birds and extend it over the entire state of Missouri. Having added a horse and wagon to our equipment a larger part of St. Louis County came under my observation and a standing invitation to use the house and grounds of the Horse Shoe Lake Club in the neighboring

St. Charles County allowed me to become acquainted with a bird population not well known before, the inhabitants of marshes, sloughs, ponds, and lakes. In the nineties some of my most enjoyable and profitable days with birds and all nature were spent in southeast Missouri, to which region I made short but repeated visits. I had obtained permission to use the house of the Knobel Hunting and Fishing Club as a base for my explorations. The house was built on piles in the St. Francis River at Bertig, to which point a spur of a railroad had just been finished. In spring the St. Francis River is in places several miles wide, spreading in arms called sloughs and separating the higher levels into islands. The vegetation of this region is as interesting as its birds, for it is different from that of the rest of the state.

When a bridge was built over the St. Francis, the railroad was extended through the heavy timber on the Misouri side to Hornersville on the Little River. As a base for the naturalist Hornersville was hardly inferior to Bertig on the St. Francis, for the Little River in springtime reaching with its arms a width of seven miles has here a widening or opening as they call it, with a beachy shore to which waders are attracted. A larger opening called Big Lake is only a few miles south of Hornersville and is known as the winter home of innumerable ducks. While the St. Francis region is the place where I made the discovery of the nesting of the Bachman Warbler, in the Little River region I had the good fortune to find the first nest of the Brown Creeper south of the pine woods of the northern U. S. A few articles in the *Auk* treat of visits to this region.

Also fruitful in its way is the Ozark region of our state. My delving into it extended from Cape Girardeau on the east to Noel and Lamar in the southwest with the White River as its crowning point of enjoyment. Missouri is a large state and after getting acquainted with one part of it, one feels it would be just as interesting to visit other parts to compare them and find out in which way they differ from one another. A visit to East Leavenworth, where our U. S. Government owns along the bank of the Missouri River a virgin forest remains as fresh in my memory as if it happened yesterday, though it is twenty years since it happened. Also a sojourn at Langdon in the northwest corner of the state, a pleasant summer resort for fishermen and a good place for anybody. Another trip I remember well, was along the Missouri River in the great bend of it in Saline County, a fine place for the duck hunter and therefore a good place for certain other birds, not found elsewhere. Another similarly rich field for an ornithologist is a marshy plain opposite Quincy, Illinois. In his wanderings the

bird student drops in on many a nice place where he would like to remain longer, but some of them make a deeper impression in his mind than others and it is wonderful how our picture-recording brain can after years and years reproduce sights with astonishing vividness.

OTTO WIDMANN, IN 1883.

Two visits to Louisiana, chiefly the region of New Orleans and north of Lake Pontchartrain with a trip to New Iberia and Avery Island brought me much knowledge of the bird life of our southern states in winter. "A Visit to Audubon's Birthplace," is the title of a paper dealing with this region.

When my wife saw how happy I was with my birds, she took more and more interest in them herself. She had always loved flowers and admired everything beautiful in nature as well as in art. why should

she not love the birds and make friends of them? On our voyage to and from Europe in 1902, instead of playing cards like most others did, we watched constantly for birds and anything alive in or above the great waste of water, and we were well rewarded for the Atlantic was alive with birds, both going in April and coming in September. And we never forgot to look out for our feathered friends in Germany and Switzerland.

The year 1903, the year after our European tour, is memorable for our participation in the Ornithologists' Union trip to California. This was a great treat, for it brought us into company of the leading ornithologists of America and opened to our admiring eyes America's most charming region. A few days in Yosemite were like being in paradise, and the days with the whole party at the Petrified Forest, the Grand Canyon and at Hesperia in the Mohave Desert can never be forgotten. A second visit to California in 1915 renewed former acquaintance with birds and their friends, for it was also a meeting of the A. O. U. and a longer sojourn at Los Angeles and San Diego increased our love for California and it was with heavy heart we said adieu and not without a hope for a revoir. Mention of one of our first longer trips, a visit to Wequetonsing, Michigan, in 1901, must not be entirely omitted, for it was an enjoyable call on some bird friends in their summer home, friends we had only opportunity to greet on their short stop-overs in migration.

After our return from Europe and removal to the city in 1903, my wife was my constant companion and soon became well acquainted with all common birds, especially with their notes and songs, for which she had an excellent ear and good memory. This was of great benefit to me in later years when my hearing began to fail me in the catching of the high notes. A genuine delight are my recollections of our sojourns in the Rocky Mountains of Colorado, twice in Colorado Springs and once in Estes Park.

With advancing years our chances to see a varied bird life were more and more handicapped by disability to cover much ground. We had to confine our visits to places easily reached and having good walks and benches to rest when tired. With the advent of the new mode of transportation our circle of visiting places was much enlarged and we had many delightful hours with nature until on May 18, 1921, my good wife, life partner for over forty-nine years, left me dependent for companionship on my children and grandchildren.

Being by nature shy and retiring I never became a good mixer and attended meetings but seldom. I never tried to be a public speaker

and being a poor talker and not caring much for social diversion I had so much more time for writing. My circle of correspondents was large and with some of them I kept up the correspondence for many years, but I never liked to write for publication. I always kept a diary in which I noted every bird and other matter of interest including weather and plant life. It was in the nineties, when I thought I had collected enough material to begin with writing a Catalog of the Birds of Missouri, giving distribution, dates and other matter of interest not generally known at that time. I had finished the landbirds, when I left for Europe in April, 1902, intending to add the waterbirds after my return, but on the last day of July my house burned down and not only the manuscript but my entire diary of twenty-five years went up in smoke. This irreparable loss discouraged me terribly and it took several years before I could be persuaded to save at least whatever I could by bringing together the material for the "Preliminary Catalog of the Birds of Missouri," which the Academy of Science of St. Louis published in 1907.

Resume

Otto Widmann born at Karlsruhe, Baden, Germany, June 15, 1841. Grandparents: Fathers' side, Christoph Heinrich Widmann, 1765-1837; Fredricke Marie Dresch, 1753-1814. Mother's side, Christoph Baumann, 1763-1835; Christine Nothardt, 1766-1835. Father, Christoph Freidrich Widmann, 1796-1871. Mother, Catherine Baumann, 1804-1851. Attended Lyceum in Karlsruhe, October 1, 1848-April 1, 1857. Apprenticed to apothecary in Karlsruhe April 1, 1857-October 1, 1860. Clerked at Freiburg, Schwetzingen and Neuchatel, October 1, 1860 to October 1, 1863. Studied in Polytechnicum, Karlsruhe, October, 1863-July, 1864. Graduated in pharmacy July 22, 1864. Visited London and Paris, 1864-June, 1865; Dresden, July, 1865-March, 1866. Came to America, March, 1866. Clerked in Hoboken, Savannah, New Orleans and St. Louis, March, 1866-December, 1867. Proprietor, December, 1867. Visited Germany, November, 1871-August, 1872. Married in Mannheim Germany, to Auguste Bender, March 5, 1872. Retired from business and lived at Old Orchard, April, 1889-April, 1902. Visited Europe, April, 1902-September, 1902. I am living at 5105 Enright Avenue, St. Louis, since January 1, 1903.

St. Louis, Mo.

NOTES ON SOME LESS COMMON BIRDS OF DOUGLAS COUNTY, KANSAS.

BY CHARLES EUGENE JOHNSON

In the Wilson Bulletin for June, 1927, I was especially interested in the article by my friends and former students, Jean Linsdale and E. R. Hall, on birds of Douglas County, Kansas, since the period of observations there covered corresponds very closely with the period of my own observations in the same county. Their list of species agrees in most particulars with my own, but since a number of birds of which I have records for the county are not mentioned by them it seems worth while to add these to the list here. During my four years on the staff of the Zoology Department at the University of Kansas, it was my privilege to conduct the classes in ornithology, and the daily field excursions with these classes, especially during the spring migration period, afforded me many opportunities for observations in this interesting region, which I might not otherwise have had. Some of the species which are listed below are not, judging from my own experience, of common occurrence, at least in the particular part of the county concerned, and the truth of this statement would seem to be confirmed by the fact that they are not mentioned by Linsdale and Hall whose observations extended over a considerably wider area than did my own.

White Pelican. *Pelecanus erythrorhynchos.* On April 24, 1920, a flock of forty were seen soaring in short circles, low down, above the Kansas River, just north of Lake View station. They kept moving slowly up the river and soon were lost to sight as they descended and apparently alighted in the river or on its banks.

Bufflehead. *Charitonetta albeola.* In the afternoon of March 26, 1923, just as I was approaching with my bird class, a male and a female Bufflehead alighted in Potter's Pond (a small pond on the University grounds). The pair soon rose, circled a few times and again alighted in the pond; this was repeated a second time, whereupon they flew in the direction of Stubb's Pond, a similar little pond about a quarter of a mile distant, and here a student reported seeing them a half hour later.

Blue Goose. *Chen caerulescens.* On March 25, 1923, my wife and I found a dead Blue Goose on the east shore of Lake View. It had evidently been dead a few days. On March 15, 1921, among a flock of Lesser Snow Geese were three others which I concluded were Blue Geese, but the direction of the light made positive identification somewhat uncertain.

Lesser Snow Goose. *Chen hyperboreus hyperboreus.* On March 15, 1921, a flock of sixteen flew over the southern part of the city of Lawrence, at 7:40 A. M.; and these were followed at 11:30 by a flock of thirty-five, among which were the three believed to be Blue Geese mentioned above. On March 16, 1922, at 9:00 A. M., a flock of fifty passed over the same part of the city; on the 23rd, two flocks were heard during the night, and on the 25th, a flock of a hundred was seen at 9:00 A. M. All these flocks were flying from east to west and all took the same route over the city.

Sandhill Crane. *Grus mexicana.* On March 25, 1920, at 1:30 P. M., while returning with my wife from an ornithological visit to Lake View, when about half way to Lawrence, we heard the trumpeting of Sandhill Cranes and immediately were greeted with the sight of eight of these large birds passing by to the north of us, flying rather low. They soon began circling, evidently looking for a place to alight, but after some minutes rose higher and continued on their way northwestward.

White-faced Glossy Ibis. *Plegadis guarauna.* In the early evening of May 9, 1923, while with my class at Lake View, two White-faced Glossy Ibises were seen among a host of shorebirds at the northwestern end of the lake. They were feeding in the shallow water with the other birds, and did not keep near together, but each seemed rather to follow the particular group of shorebirds it happened for the moment to be among, moving about at our approach as these did.

Stilt Sandpiper. *Micropalama himantopus.* On May 11, 1923, a single individual was seen among other shorebirds at the northwestern end of Lake View. One was also seen in the same locality in May of the previous year, but through an oversight the exact date was not recorded.

Red-shouldered Hawk. *Buteo lineatus.* On May 5, 1923 one was observed, soaring directly overhead, about half a mile east of the Corning farm, on the east side of the city of Lawrence.

Broad-winged Hawk. *Buteo platypterus platypterus.* On May 11, 1923, one was seen at Lake View.

Chuck-will's-widow. *Antrostomus carolinensis.* On May 11, 1923, while my wife and I were the guests of Misses Vera Smith and Nadine Morrison, at their cabin at Lake View, we heard the characteristic call of this species issuing from the deep woods at the edge of

which the cabin was situated, on the south shore of the lake. The first calls were heard between 7:30 and 8:00 o'clock in the evening; as the evening wore on they came more frequently. and were repeated at shorter or longer intervals for about an hour. now nearer, then farther away. It soon became evident that there were two individuals calling. their calls now and then overlapping, at other times coming from different directions, one nearer, the other farther away.

Poor-will. *Phalaenoptilus nuttalli.* At dusk on the evening of June 9, 1920, while listening for evening bird notes, my wife and I heard the call of a Poor-will along the roadside at the western end of the University campus. The road is, or was, here bordered by a pastured slope, covered largely with Osage orange trees, shrubbery and weeds. The Poor-will was seen repeatedly as it flew about, low down. along the road and over the slope, always keeping within a limited area. The calls were repeated several times within a period of about fifteen minutes, at times quite close to where we were standing. It is my belief that the bird was one of a nesting pair.

Black-billed Cuckoo. *Coccyzus erythrophthalmus.* On May 29, 1920, one was seen in the Osage orange hedge bordering Louisiana street road, about a mile south of Lawrence.

Bewick's Wren. *Thryomanes bewicki bewicki.* A specimen was taken on April 1, 1919, in the hedge bordering the Louisiana street road, just north of the bridge at Wakarusa Creek. (Reported in the *Auk*, 1921, vol. 38, p. 119).

Willow Thrush. *Hylocichla fuscescens salicicola.* An individual bird which I determined to be this form was seen on May 9, 1921, on the ground beneath the hedge bordering a pasture, about a quarter of a mile south of the University campus; and on May 21, 1923. one was seen at the edge of Marvin's Grove on the University grounds.

Roosevelt Wild Life Station,
N. Y. State College of Forestry.
Syracuse, N. Y.

NOTES FROM LA ANNA, PIKE COUNTY, PENNSYLVANIA

BY THOS. D. BURLEIGH

LaAnna lies in the extreme western edge of Pike County, one of the rugged mountainous counties that form the northeastern corner of Pennsylvania. Conditions here are typical of those found much farther north, radically different from the lower half of this part of the state, and abrupt enough to be decidedly interesting. This range of mountains is known as the Poconos, and in spots is rather well known as the breeding ground of more northern species rarely found elsewhere in the state, and even here far from plentiful. Among these are the Yellow-bellied Flycatcher, the Purple Finch, the Nashville Warbler, and the Golden-crowned Kinglet, which find the tamarack swamps and sphagnum bogs well suited to their needs during the summer months. Much has been published from time to time concerning the general topography of this region so little detail is necessary here. The ridges are steep and heavily wooded, and well up from the valleys, on level and often extensive plateaus, are found the numerous swamps and sphagnum bogs which characterize this section of the state. The valleys about LaAnna are narrow, but open to some extent, with scattered farms along the roads that follow the numerous streams. Hardwoods and conifers are found in equal abundance here, in mixture or, to some extent, and under certain conditions, in relatively pure stands. Of the hardwoods, the sugar maple (*Acer saccharum*) is possibly the commonest and most characteristic although the yellow birch (*Betula lutea*), beech (*Fagus grandifolia*), and various oaks form a fair proportion of the timber. The conifers are represented by the white pine (*Pinus strobus*) and hemlock (*Tsuga canadensis*) in the valleys, and on the higher ridges and plateaus the red spruce (*Picea rubra*) and tamarack or larch (*Larix laricina*). The last occurs most commonly in the fairly open sphagnum bogs, is the only tree found there, and gives such spots a truly boreal aspect.

It was in 1917, during the latter half of May and the first part of June, that I had the opportunity to study the bird life about LaAnna. As far as the rarer species were concerned I was not very successful but in one respect the data recorded during those few weeks proved rather interesting. At intervals a spring will be very backward, with conditions such that both migrants and breeding birds will be materially affected and dependent entirely on the weather. Such was the case that year. Practically all of May was unseasonably cold with almost incessant rainfall. This resulted in the spring migration being delayed, and unusually prolonged, while the breeding birds were un-

able to nest until a time when they normally would be feeding well grown young. I thought I had made allowance for this unfavorable weather by delaying my trip for several weeks, but when I reached LaAnna on May 23, I found I was still too early for the bulk of the breeding birds. It was a week or more before many had begun to nest, and the middle of June before the height of the breeding season was reached. I was forced to leave the evening of June 14, so these notes cover just three weeks spent in the field there; but while they are incomplete in so far as the breeding birds are concerned the evident effect of the cold, rainy weather is of sufficient interest, I believe, to justify their publication. I have also included a few migration records concerning those species which were decidedly influenced by adverse weather conditions.

Solitary Sandpiper. *Helodromas solitarius solitarius.* A single bird was seen June 4, feeding at the marshy edge of a small stream in an open field. It was probably a late migrant, although this species is said to breed here sparingly.

Sharp-shinned Hawk. *Accipiter velox.* A nest found May 27 held five slightly incubated eggs, and was twenty-five feet from the ground near the top of a red spruce at the side of a road through a stretch of thick woods. It was well built of small sticks and twigs, and lined with a few small pieces of bark.

Cooper's Hawk. *Accipiter cooperi.* A nest found June 6, held two newly hatched young and two pipped eggs and was forty feet from the ground in a crotch of a large hornbeam (*Ostrya virginiana*) at the edge of a short stretch of woods at the top of a ridge. It was large and substantially built of sticks and twigs, and well lined with flakes of bark.

Red-shouldered Hawk. *Buteo lineatus lineatus.* Fairly plentiful. One nest was found May 26, which held three downy young possibly a week old. It was thirty-five feet from the ground in a large yellow birch deep in the woods, and seemingly was merely an old Crow's nest to which nothing had been added but a fresh spray of hemlock. The hindquarters of a large frog lay at the edge of the nest.

Broad-winged Hawk. *Buteo platypterus.* I found this species an uncommon summer resident here. Two were seen May 26, circling together high overhead.

Belted Kingfisher. *Ceryle alcyon alcyon.* This species was by no means plentiful here, but this was possibly due largely to the character of the country which offered few suitable nesting sites. One

nest with six fresh eggs was found on June 4, in the top of a small quarry close to a stream. The hole was but a short distance down from the surface of the ground, and the nest cavity was fully five feet from the entrance.

Hairy Woodpecker. *Dryobates villosus villosus.* Fairly plentiful. A nest found May 27, with small young, was eighty feet from the ground in a dead limb in the top of a large sugar maple at the edge of a stretch of woods.

Yellow-bellied Sapsucker. *Sphyrapicus varius varius.* Only one pair of these birds was found about LaAnna, in a stretch of woods bordering a dense rhododendron swamp at the top of a ridge. The nest, found June 11, held on that date four fresh eggs, and was fifty feet from the ground in the trunk of a large dead sugar maple. The female was incubating and sat very close, ignoring blows on the foot of the tree, and did not flush until the nest was almost reached.

Northern Pileated Woodpecker. *Phloeotomus pileatus abieticola.* This species is said to be fairly plentiful here. Two were seen May 28, and an occasional bird at intervals thereafter.

Northern Flicker. *Colaptes auratus luteus.* A plentiful summer resident. The first nest, found June 9, held nine fresh eggs, and was fully seventy feet from the ground in the dead top of a large sugar maple deep in the woods.

Nighthawk. *Chordeiles virginianus virginianus.* One bird was seen May 29, feeding overhead, my first, and an unusually late, record for the spring migration.

Ruby-throated Hummingbird. *Archilochus colubris.* This species proved to be unusually plentiful. Five nests were found between the 5th and the 14th of June, one on the 5th with one fresh egg, one on the 7th with two fresh eggs, one on the 10th with two fresh eggs, and two on the 14th apparently about built but still empty. Two were in hemlocks, two in yellow birches, and one in a beech. They varied in height from ten to thirty feet, and were in each case at the outer end of drooping limbs.

Kingbird. *Tyrannus tyrannus.* A plentiful summer resident. Few attempted to breed before the middle of June, and but one nest was found. This on June 13, held three fresh eggs, and was thirty feet from the ground in a horizontal crotch at the outer end of a limb of a large butternut tree at the side of a road. It was substantially built of wool, weed stems, and grasses, lined with fine grasses and a little horse hair.

Phoebe. *Sayornis phoebe.* A plentiful summer resident. Like so many of the birds here they nested late, for of the six nests found the earliest held, on the 27th of May, five fresh eggs. This nest was on a window frame on the outside of a house and was accidentally destroyed, but the birds immediately began to build again on a ledge above a pillar of the porch of this same house, and on the 9th of June, just thirteen days later, were incubating a full set of four eggs.

Wood Pewee. *Myiochanes virens.* This species was seen for the first time on May 31, an unusually late date for arrival in the spring. Within a few days, however, it was quite plentiful.

Yellow-bellied Flycatcher. *Empidonax flaviventris.* One bird was seen May 31, feeding at the edge of a rhododendron thicket deep in the woods. It is said to breed here sparingly but I lacked the time later to search for a nest.

Least Flycatcher. *Empidonax minimus.* A very plentiful summer resident. The first nest, found June 11, held on that date four fresh eggs, and was twenty feet from the ground in an apple tree at the side of a road. Three other nests were found two days later, on the 13th, one with four fresh eggs, thirty feet from the ground in a large yellow birch, the second with three slightly incubated eggs, twenty feet from the ground in the top of an apple tree, and the third with three fresh eggs, twenty feet from the ground in a crotch of one of the limbs of a totally dead sugar maple sapling at the edge of a field. The nests were all compactly built of gray plant fibres and grasses, well cupped and lined with fine grasses and dandelion down.

Starling. *Sturnus vulgaris.* Two birds were seen May 25, about an orchard, but as yet this species is seemingly rather scarce here in the mountains.

Baltimore Oriole. *Icterus galbula.* This species proved to be a quite plentiful summer resident here, nesting invariably in the sugar maples that bordered the road in front of the houses. Three nests were found, in each case in the extreme tops of the trees, and varying in height from twenty to thirty-five feet from the ground. The first held, on June 9, four slightly incubated eggs, the second, found June 12, held five fresh eggs, and the third held, on June 14, four fresh eggs.

Pine Siskin. *Spinus pinus.* Four birds, late migrants, were seen May 30, feeding at the edge of a field on dandelion seeds.

Chipping Sparrow. *Spizella passerina passerina.* A plentiful summer resident. The first nest, found June 2, held four fresh eggs and was six feet from the ground in a small hemlock. Another nest,

found June 7 with four fresh eggs, was in as unusual a situation as I have ever found a nest of this species. A handful of hay had been pushed through a crack in the floor of a barn and hung from the roof of the overshoot, and in the middle of this the nest was built. It was otherwise characteristic of this species, being compactly built of weed stems and grasses, lined with horse hair. Of the four other nests found, one was in a red spruce, one in a hemlock, one in an apple tree and one in a sugar maple. varying in height from three to fifteen feet from the ground. Three held four eggs each, and one three.

Song Sparrow. *Melospiza melodia melodia.* Plentiful, and seen largely in the more open country. A nest found on June 8, held five fresh eggs, and was five feet from the ground in a small bushy red spruce in an open field. Another found the same day interested me very much because it was in a spot so unlike any in which I had ever found these birds breeding, being sunken in the sphagnum moss at the foot of a small cranberry bush in a tamarack swamp deep in the woods. The bird was flushed from the five fresh eggs it held so there was no question as to its identification. It was built of dead leaves and fine grasses, lined chiefly at the bottom with fine black rootlets, the absence of any horse hair in the lining showing clearly its distance from civilization.

Indigo Bunting. *Passerina cyanea.* This species was not recorded here until May 27, an unusually late date for arrival in the spring.

Scarlet Tanager. *Piranga erythromelas.* One bird, a male, was seen May 23, and it was not until almost a week later that this species was at all plentiful. This was by far the latest that I have ever recorded it for the first time for the spring migration.

Cliff Swallow. *Petrochelidon lunifrons lunifrons.* A small colony of these birds was found nesting under the eaves of a barn, fifteen nests being counted there on June 13. On that date two held four fresh eggs each, three three eggs each, five two eggs each, one one egg, and four were but half built. All were built close together, and were on the side facing a road.

Barn Swallow. *Hirundo erythrogastra.* A plentiful summer resident. A nest found June 12, held five fresh eggs, and was plastered against a beam in the roof of a barn. It was unusually well lined with large chicken feathers, a precaution probably against further cold weather.

Blue-headed Vireo. *Lanivireo solitarius solitarius.* This species was one of the most plentiful and characteristic breeding birds here.

It was not until June 12 that the first nests were found, two on that date holding four fresh eggs each. One was ten feet from the ground, and the other seven, and both were in hemlocks deep in the woods. The former was unusually well built of grasses and shreds of soft inner bark, lined with fine hemlock twigs, and well covered on the outside with fragments of an old hornet's nest. A third nest found on the following day, the 13th, was fully built but as yet empty, and was eight feet from the ground at the outer end of a limb of a large rhododendron overhanging an old road through the woods.

Black and White Warbler. *Mniotilta varia.* Plentiful, and well scattered through the woods. One nest, found on June 9, held five fresh eggs. It was sunken in the ground well in under an old decayed stump in a ravine, and was built of dead leaves and rhododendron berry stems, lined with fine black rootlets and a few white hairs.

Nashville Warbler. *Vermivora ruficapilla ruficapilla.* One bird was seen May 30, feeding and singing at the edge of a tamarack swamp. It very probably nested there, as the deep sphagnum moss that carpeted the ground made an ideal spot for this species to breed.

Black-throated Blue Warbler. *Dendroica caerulescens caerulescens.* This was unquestionably the most abundant breeding bird about LaAnna. A decided preference was shown for the rhododendron thickets scattered through the woods, but as this was the prevailing underbrush it increased rather than limited the distribution of these birds. Delayed by the cold, rainy weather, they all nested at practically the same time, and between June 10 and 13, eleven nests were found that held fresh eggs. Six of these held full sets of four fresh eggs each, while five were, on the 13th, still incomplete, two holding three eggs each and three two eggs each. Five were in small rhododendrons, two in low viburnums (*Viburnum acerfolium*), and four in small hemlocks, in each case well concealed by the surrounding underbrush. They varied in height from six inches to two and a half feet from the ground, the average nest being a foot or less from the ground. All were alike in construction, being well built of pieces of rotten wood and shreds of soft inner bark, deeply cupped and lined with fine black rootlets.

Magnolia Warbler. *Dendroica magnolia.* A plentiful summer resident. Three nests were found, two on June 12, and one on the 13th, each with four fresh eggs. All were in rather open woods, one ten feet from the ground at the outer end of a limb of a hemlock sapling; another seven feet from the ground in the top of a small hemlock.

and the third three feet from the ground in a rhododendron. They were alike in construction, being compactly built of fine hemlock twigs lined with fine black rootlets.

Bay-breasted Warbler. *Dendroica castanea.* One bird was seen for the first time on May 24, and for the following ten days small flocks were of common occurrence. Because of the weather they were almost invariably found feeding on the ground, at the side of the road, or at the edge of plowed fields, and they appeared decidedly out of place there. On June 7 the last bird was seen, a rather late date for this species here during the spring migration.

Black-poll Warbler. *Dendroica striata.* Common during the latter part of May, and seen as late as the 5th of June.

Blackburnian Warbler. *Dendroica fusca.* Fairly plentiful. On June 13 a bird was trailed to a nest that was fully fifty feet from the ground at the outer end of a limb of a large white pine at the edge of a stretch of woods.

Black-throated Green Warbler. *Dendroica virens.* A fairly plentiful summer resident. A nest found June 13 held two fresh eggs and was forty feet from the ground in a large yellow birch, in a crotch formed by several small limbs with the main trunk.

Oven-bird. *Seiurus aurocapillus.* A plentiful summer resident. One nest found June 7 held four slightly incubated eggs, and was at the side of a road through a stretch of woods, sunken in the ground and well concealed in the dead leaves.

Northern Water-thrush. *Seiurus noveboracensis noveboracensis.* This was another breeding bird very characteristic of this part of the state. No where else have I found them as plentiful as they are about LaAnna, for one or more pairs nested in all the numerous swamps scattered through the woods. These swamps with their tangled rhododendron thickets, pools of stagnant water, and uprooted trees, attracted few other birds but this species was never lacking. Walking was so difficult here, however, that although a bird might be singing close by it was often hard to catch even a glimpse of it. For this reason also, and because the area to be searched was frequently so large, finding the nest was a matter requiring considerable patience and perseverance, and quite frequently the attempt ended in failure. The birds breed earlier than the rest of the warblers, and even with conditions as unfavorable as they were slightly incubated eggs were found the first week in June. The first nest was found June 1 and held on that date five slightly incubated eggs. It was embedded in the up-

turned roots of a small tree, six inches above the water of a small pool deep in a swamp, and was well built of green sphagnum moss, lined with fine red rootlets. Two other nests were found on June 3, one with three slightly incubated eggs and the other with four, and both in situations similar to this. They differed slightly in construction. however, for while as before they were lined with fine red rootlets. they were more substantially built of dead leaves, grasses and green sphagnum moss.

Louisianna Water-thrush. *Seiurus motacilla.* This species was as plentiful as the last, but unlike it shunned the swamps and was found about the swift running streams in the ravines. A nest was found June 9 that held four fresh eggs, and was three feet from the ground embedded in the upturned roots of a large tree at the edge of a stream. It was a large mass of dead leaves, deeply cupped and lined with fine grasses and a little horse hair.

Mourning Warbler. *Oporornis philadelphia.* One bird was seen June 9, feeding and singing at the edge of an overgrown clearing in the woods where a pair of these birds are said to nest each year.

Maryland Yellow-throat. *Geothlypis trichas trichas.* This was a plentiful summer resident, but it was barely nesting before I was forced to leave and my breeding data are rather meager. One nest was found on June 14 with one fresh egg. It was a foot and a half from the ground in a blackberry bush in a briar thicket at the side of a road, and was bulkily built of weed stems and grasses, lined with horse hair.

Wilson's Warbler. *Wilsonia pusilla pusilla.* My first record for the spring migration for this species was May 25, two birds, both males, being seen feeding in underbrush.

Canada Warbler. *Wilsonia canadensis.* A plentiful summer resident. One nest, found on June 12, held five fresh eggs. It was on a steep bank near a small stream deep in the woods, sunken in the ground at the foot of a rhododendron bush, and was built of dead leaves and grasses, lined with fine grasses and fine black rootlets.

Catbird. *Dumetella carolinensis.* This species was fairly plentiful about the town and in the more open country. A nest found on June 7 held four fresh eggs, and was ten feet from the ground in a small red spruce in an open field. It was well built of twigs and strips of bark, lined with fine hemlock twigs.

House Wren. *Troglodytes aedon aedon.* This species was very plentiful. Two nests were found on June 13, and both were in un-

usually interesting and, to me, out of the ordinary situations. One that held seven fresh eggs was in a Robin's nest on a ledge above a pillar of a porch of an unoccupied house. Here the cavity had been deepened and a few twigs and feathers added but this was hardly noticeable even a short distance away. The other was not as yet fully built, and was in a Barn Swallow's nest against a beam in the roof of a barn. Here again the cavity had been deepened and a few twigs and feathers added. In both cases the nests used were new ones, and as the House Wren is often a little tyrant it is easily possible that the original owners were driven away.

Winter Wren. *Nannus hiemalis hiemalis.* This species breeds sparingly in the more secluded ravines. A nest found on June 9 was newly built but as yet empty, and later was found to be deserted. It was in a pocket under the raised roots of a partly fallen yellow birch at the side of a small stream, and was a ball of green moss and hemlock twigs, with the entrance at the side.

Brown Creeper. *Certhia familaris americana.* One bird was seen on May 28, an unusually late date, in my experience, for the spring migration.

Red-breasted Nuthatch. *Sitta canadensis.* This species was fairly plentiful for the first few days after I reached LaAnna, and I thought that it might possibly breed, but none were seen after May 26, although even on that day several were noted.

Labrador Chickadee. *Penthestes hudsonicus nigra.* It was on June 3, as I was crossing the edge of an open tamarack swamp deep in the woods, that I heard an unmistakable nasal "chick-a-dee-dee," and a short search revealed two of these birds feeding in the lower branches of the larger trees bordering this swamp. They were not at all timid so I had little difficulty in approaching within a few feet of them, and after watching them for a short time I decided that they were evidently mated and that it might not be impossible that they would breed here. Returning two days later, on the 5th, I again found them at this same spot, but although I trailed them this time for two hours they showed no signs of nesting. They appeared to me a little sluggish for frequently one would remain on a limb for ten or fifteen minutes without moving at all. They were also far from noisy, rarely uttering their characteristic notes and frequently feeding for some time without any sound whatsoever. Perhaps if I had had more time I might actually have found them breeding here in Pennsylvania, but even so it was decidedly interesting to find them at LaAnna at this late date.

Ruby-crowned Kinglet. *Regulus calendula calendula.* These birds were plentiful throughout the latter part of May, and one was seen as late as June 2, an unusually late date for the spring migration.

Wood Thrush. *Hylocichla mustelina.* A plentiful summer resident. The first nest, found June 1, held four fresh eggs, and was eight feet from the ground in a small hemlock at the side of a road through the woods. Two other nests were found June 10, in each four fresh eggs, one twelve feet from the ground in a beech, the other ten feet up in the top of a small hemlock.

Olive-backed Thrush. *Hylocichla ustulata swainsoni.* One bird was seen May 23, deep in the woods, and on that same day a nest was found that was six feet from the ground in a small hemlock, and which was unquestionably of this species. It breeds very sparingly here, however.

Robin. *Planesticus migratorius migratorius.* Very plentiful, but seen very largely in the more open country, and especially about the houses. Ten nests were found between May 25 and June 13, in five three eggs each, and in four four, while one held, on May 31, three small young. These varied in height from three to twenty feet from the ground, and were in almost every conceivable position, one being in a shed, another on a beam in the roof of a porch, a third embedded in the top of the upturned roots of a large tree at the side of a road, and a fourth in a lilac bush close to a house. Of the six that were more prosaically built in trees, four were in hemlocks, one in a red maple, and one in a yellow birch.

State College of Agriculture,
Athens, Georgia.

THE WILSON BULLETIN

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EDITORIAL

The time and place of the annual meeting have not been determined; at least the information has not reaehed our office in time for announement in this issuc. Noticcs will be scnt out by the Secretary as early as possible. The Editor suggests that the meeting arrangements should be settled much earlier in the year.

The Committee on Endowment Fund is not ready to make a report as yet. But we understand that the ineorporation of the Club has been completed, which was the first necessary step. The Committee will make, no doubt, a full statement of progress and plans at our next meeting. Any members who eontemplate a contribution to the fund may very properly make the faet known to any offieer of the Club at any time.

The news of the accidental death of Louis Agassiz Fuertes eame as a profound shock to all who are familiar with his work as a painter of birds. American ornithology is immeasureably his debtor, and no one can estimate the loss which his premature death entails. In 1897, when Fuertes was but twenty-three years old, Elliott Coues wrote the following lines: "I say deliberately, with a full sense of the weight of my words, that there is now no one who ean draw and paint birds so well as Mr. Fuertes; and I do not forget Audubon himself when I add, that Amcrica has not before produced an ornithologieal artist of equal possibilities." How well Fuertes fulfilled the prophecy of Dr. Coues is now well known to the world. The praise of Dr. Coues was based upon the artist's early work; the polished work of Fuertes' maturer years has won for him an imperishable fame.

GENERAL NOTES

Conducted by M. H. Swenk

Nesting of the Florida Red-winged Blackbird.—The height of the nesting season of the Florida Red-winged Blackbird (*Agelaius phoeniceus phoeniceus*) in this locality (Bradenton) seems to be between the dates of April 15 and 25, as I have found the most nests containing eggs between the above given dates. The birds nest in small bushes, close to water, at heights ranging from two to six feet above ground; generally in communities. Their nest is a woven structure of grasses and rushes and is partially suspended from the rim. In all the nests examined by me I have never found any containing over three eggs, while several contained only two eggs. They vary considerably in size and markings.—C. K. Lloyd, *Bradenton, Fla.*

The Lark Bunting in Iowa.—On Sunday, June 5, 1927, Mrs. Darling and I were driving north in the Little Sioux Valley on the main graveled highway between Oto and Anthon. About three miles south of Anthon we turned east and crossed the railway track and within a few rods of the crossing came upon a Lark Bunting sitting on a fence post beside the road. Mrs. Darling saw the bird first. I stopped the car as soon as possible and found that we had a clear front view of the bird, showing its black body and heavy gray bill. When I stepped out of the car the bird flew to a fence post a few rods away where it showed clearly its white wing markings. I followed it and obtained a good close-up view until it flew again and alighted on the ground, where I had still another good view of it. I have seen numerous Lark Buntings in South Dakota, but never saw one before in Iowa.—A. B. Darling, *Sioux City, Iowa.*

The Great Blue Heron in Tuscarawas County, Ohio.—On June 13, 1921, we found two pairs of the Great Blue Heron nesting in Tuscarawas County. A storm a few days previously had broken a limb on which one nest was anchored, and we found three dead young herons and the nest eighty feet below. The tree was a large White Oak that had been killed by lightning several years previously, and stood near the top of a ridge. By climbing a tree about one hundred feet from the nest tree, we were able to get a focus on the nest and one of the old birds. The four young had settled down in the nest and did not show on the print. These two pairs are no doubt the remnant of a large colony that nested about three miles north of the location of these nests, in the Stillwater Valley. Their nesting site was destroyed by lumbering about twenty years ago, and they then moved over to the Laurel Valley where their nesting site was again destroyed twelve years later. On another visit, on May 5, 1922, we noted five old birds in the vicinity, and they had built another nest on a lower limb. We visited the tree again in April, 1923, and found that a storm had blown the tree down and no birds were to be seen in the neighborhood.—Charles R. Wallace, *Delaware, Ohio.*

Loon Banded in Pennsylvania Killed in Ontario.—On May 12, 1926, Mr. J. S. Reinert of Lansdale, Montgomery County, Pennsylvania, forwarded to this office a live and healthy Loon (*Gavia immer immer*). After photographing, sketching, and banding this bird, we liberated it on May 15, at Wildwood Lake, Harrisburg. It swam to deep water, dived several times, and later in the evening flew to the nearby Susquehanna River.

In a letter from Mr. George E. Donkin of Toronto, dated August 1, 1927, we received interesting information concerning this Loon. Mr. Donkin writes: "On Sunday, July 31, while walking on the beach at Brighton, Ontario, I found a Loon with a leg band of your Commission, No. 9684. The bird had evidently just arrived or was sleeping and had been killed by a skunk, as the approach and attack were all clearly indicated in the sand. Likely after a long flight it was exhausted. I am taking the liberty of keeping the clip as a novelty."

Thus had this Loon wandered for fifteen months after its liberation in Pennsylvania. It had likely visited the Gulf of Mexico during this period.—George Miksch Sutton, *Game Commission, Harrisburg, Pa.*

Ruffed Grouse Captured by a Screech Owl.—It is not often that the Screech Owl (*Otus asio asio*) attempts to capture prey larger than itself. An instance of the killing of a Ruffed Grouse (*Bonasa umbellus umbellus*) by this small owl has been brought to my attention recently, however. At about midnight on December 20, 1924, Mr. George Ryder, of LeRoy, Bradford County, Pennsylvania, captured a Screech Owl in a steel trap which he had set earlier in the evening on the body of a grouse which he had just found freshly killed, and from which he had frightened what he recognized as a small owl of some kind. Examination of the snow about the body of the grouse showed that no quadruped had caught the bird. Furthermore, the Screech Owl's stomach, which was examined at the writer's office, contained much of the head and neck of the grouse, as well as several sumac seeds, portions of rose-hips, and tiny twigs with buds attached, which must have been swallowed with the gizzard of the grouse. The owl was caught by both feet only a few minutes after the setting of the trap, so it is fair to assume that the eating had been done prior to the setting of the trap, probably just after the owl had killed its prey. There is a bare possibility that the grouse had killed itself by flying into a tree. It is not likely that this could have been the case, however, unless the grouse was frantically trying to escape capture. Uneaten portions of the body of the grouse, which were also carefully examined, indicated such health of body tissue that the bird could hardly have died of disease.—George Miksch Sutton, *Game Commission, Harrisburg, Pa.*

Birds Enjoy Bathing During the Winter Months.—Last winter I made the discovery that the Blue Jays enjoy their bath during the cold weather as much as during the warm days of summer. Instead of storing my bird-bath, I left it out all winter, keeping it filled with fresh water twice daily. The jays, as well as two blackbirds and dozens of sparrows, enjoyed the bath all winter, even on days when it was 8 or 10 degrees above zero. If the cake of ice was not removed from the bath by 11 A. M., the jays sat in a tree above the fountain, and called until I appeared with the tea-kettle to thaw the ice and refill the bath. They sat quietly, watching my movements; when I had finished and started toward the house, they flew down immediately to make their ablutions. One jay in particular, seemingly could never get enough of the water. I have seen him immerse sixteen times in rapid succession, before he would fly into the tree to preen himself. Often they would return in the afternoon. I always knew when to refill the bath, by their loud, raucous cries. Sometimes it was amusing to see them stand on the cake of ice or edge of the bowl, attempting to take a dip; if the water was only partly frozen they would hop in, but as quickly hop out, as much

as if to say—"Oh, too cold." At times, they appeared frightened, when they came into contact with the ice that had formed a thin layer on top of the water. I am repeating my experiment this winter, much to the birds' delight as well as my own pleasure.—Mrs. Howard Smith Benedict, *Lakewood, Ohio.*

The Golden Eagle Nesting in Woods County, Oklahoma.—About the year 1907, it was my privilege to help Dr. G. W. Stevens, now at the State Teachers College at Warrensburg, Missouri, collect the nest of a Golden Eagle (*Aquila chrysaetos*). It was located among the hills about two miles west of the Cimmaron River, at a point nearly west from the town of Waynoka.

This nest had evidently been used for many generations since it was so large that it constituted nearly a wagon load of material. Because of its size and precarious position on the face of the cliff, we reached it by means of a rope ladder from above and then lowered it with ropes to the base of the cliff.

The material of which it was constructed was obviously gathered chiefly from the broad dry sandy bed of the nearby river. I was astounded at the large size of some of the pieces of wood used. One piece was as long and fully half as large as a fence post. Having been long subjected to weathering, they were of course very light. The nest was collected for the University of Kansas Museum, and sent to the late Professor L. L. Dyche, its founder. It is still there in the custody of the present director, Mr. C. D. Bunker.

Within a radius of four or five miles there were two other nests of the Golden Eagle. From one of these, similarly located on the face of a cliff, with the help of several students, I collected an egg for the teaching museum of the State Teachers College at Alva, Oklahoma. Similar cliffs are to be found far up the Cimmaron River, for forty or fifty miles, and doubtless further search would have discovered other nests.

That eagles, both the Golden Eagle and Bald Eagle, were formerly common in northwestern Oklahoma is evidenced by the fact that from 1905 to 1909 about a dozen specimens, two or three of them Bald Eagles, were brought into the museum of the State Teachers College for mounting. From one of these was plucked the quill with which President Roosevelt signed the statehood bill for Oklahoma. Eagles are still observed in the northwestern part of the state, but are now rare.—Wyman R. Green, *University of Chattanooga, Chattanooga, Tenn.*

A Few of the Less-known Summer Residents Near Toledo, Ohio.—The Dickcissel (*Spiza americana*), noted for its sporadic movements in the eastern United States, has not been seen in any numbers in northwestern Ohio since 1896, when it was reported as a common resident about Oberlin (The Birds of Cedar Point and Vicinity, by Prof. Lynds Jones). In the district about Toledo, however, this species has been increasing steadily during the last few years, and can now (1927) be classed as abundant. Large colonies have been found this year on all sides of the city, but especially to the east, toward Bono, Ohio. On July 17, on an automobile trip east to Port Clinton, Ohio, a distance of about 35 miles, Dickcissels were heard singing from every hayfield and meadow, as numerous as Meadowlarks. The last bird was heard within the city limits of Port Clinton, but none farther east.

A few miles from Toledo, extending to the west, is a strip of sandy wet soil about four miles wide and ten miles long, known locally as the "Oak Openings."

Half-hearted attempts have been made to farm it, resulting in a few cultivated fields but leaving large areas of meadows covered with ferns and long marsh grass. Great thickets of scrub oak, cottonwood, and alder, with tangled masses of briars abound, with here and there a grove of large oaks which the ax has spared. The lower portions of this land are under water the first half of the year. This territory abounds in bird life, four species being particularly worthy of note.

In the meadows the Henslow's Sparrow (*Passerherbulus henslowi*) is a very common summer resident and its characteristic "*Par-a-check*" can be heard constantly. Next to the Field Sparrow and the Towhee, this species is most numerous of the sparrows. It is gradually enlarging its breeding area and can now be found for miles on all sides of this particular section. In these same meadows, but in much fewer numbers, can be found the Short-billed Marsh Wren (*Cistothorus stellaris*). On July 10 and 16 and August 13 of this year, small colonies of probably six pairs each were found, and further investigation may show this species to be more numerous. In the denser thickets the Golden-winged Warbler (*Vermivora chrysoptera*) is a rather common breeder. Little difficulty is found in locating a pair of these warblers in any suitable cover. As late as 1908 this species was reported as an uncommon migrant from Oberlin, Ohio (The Birds of Cedar Point and Vicinity), but its status may have changed since then.

Of exceptional interest this year was the nesting of at least three pairs of the Savanna Sparrow (*Passerculus sandwichensis savanna*) at the border of the "Openings" in rather widely separated locations. This species is quite regularly seen here as a migrant, but this is the first year it has been known to remain for nesting. The Oberlin, Ohio, records list it as a migrant only.—Louis W. Campbell, *Toledo, Ohio.*

Additional Notes on Birds of Vilas County, Wisconsin.—During the summers of 1918 to 1921, inclusive, the writer spent part of his vacation each year in the area noted by Alvin R. Cahn in his article, "Summer Birds in the Vicinity of Plum Lake, Vilas County, Wisconsin" (Wilson Bulletin, xxxix, pp. 23-34). The following notes from that region are deemed to be of some interest in connection with the data presented by Mr. Cahn.

Sandhill Crane (*Grus mexicana*).—On September 1, 1920, one of these birds was seen to fly across Star Lake and alight at the portage which connects with Plum Lake. The bird was approached within fifty yards before it flushed. Tracks in the sand showed almost no hind toe. This, together with the size and characteristic flight, neck outstretched, identified this rather rare bird.

Pigeon Hawk (*Falco columbarius columbarius*).—One of these falcons was seen several times in the neighborhood of Star Lake Station in August, 1921.

Arctic Three-toed Woodpecker (*Picoides arcticus*).—A single bird was seen frequently about camp at Star Lake in August, 1920, and once at Razorback Lake. In July, 1921, a bird of this species was seen on numerous occasions entering a hole in the top of a dead white birch, some forty feet high.

Evening Grosbeak (*Hesperiphona vespertina vespertina*).—A flock of eight immature birds was seen at Lake Kawaga, July 21, 1918, feeding in an open grove of mixed deciduous and coniferous trees. They seemed to prefer the Jack Pine cones, and unripe choke cherries. Another flock was seen on July 23 and

25, 1921, on an island in Star Lake. These birds were almost all in dull plumage. only one brilliantly plumaged bird being seen on each occasion.

Redpoll (*Acanthis linaria linaria*).—One flock of about twenty was seen at Star Lake Station, August 30, 1920.

Pine Grosbeak (*Pinicola enucleator leucura*).—A pair was seen near Minoqua, Wisconsin, July 5, 1918, feeding in a grove of poplar saplings. No evidence could be found of either nest or young.

Nashville Warbler (*Vermivora ruficapilla ruficapilla*).—Several were seen during the first week in September, 1920, at Star Lake.

Magnolia Warbler (*Dendroica magnolia*).—On June 28, 1918, near Minoqua, Wisconsin, several were seen in hemlock woods.

Blackburnian Warbler (*Dendroica fusca*).—Rather abundant in August, 1920 and 1921, at Star Lake.

Palm Warbler (*Dendroica palmarum palmarum*).—Several seen in August, 1921, at Star Lake.

Canada Warbler (*Wilsonia canadensis*).—One seen flycatching August 28, 1921, at Star Lake.—Clarence S. Jung, *Milwaukee, Wis.*

Some Notes on Pileated Woodpeckers.—It is always a pleasing experience to see one of these large woodpeckers. One logically associates them with the old primeval forest, which, in most parts of the country, is now a thing of the past. It therefore gives one a thrill and makes one feel somewhat like a pioneer to see one of these denizens of the tall timber. Here are the records of the four last times I have seen the Pileated Woodpecker.

April 6, 1923, found me in Crosstown, Missouri, by no means a metropolis. A Pileated Woodpecker stayed in a piece of second growth timber for several hours, although this was along a road and near houses. It was decidedly smaller than the Northern Pileated Woodpecker (*P. p. abieticola*).

August 26, 1921, I visited Wyandot Cave, near Corydon, the first capital of Indiana. When we finally emerged from the interminal subterranean passages and again saw the welcome light of day, the first sound I heard was the loud, shrill call of the Logcock, as it is popularly called, and then saw two of them, a male and a female, in the top of a tall tree. There is many a tract of fine primeval timber in this part of Indiana, because the rough, hilly topography of the region has made transportation largely impossible. It was the first and only time I have seen a Pileated Woodpecker in the Hoosier State. May it be found there for many more years to come.

October 17, 1924, I happened to be in the backwoods of Quebec, Canada, at Inlet, Labelle County, fifty miles northeast of Ottawa, the capital of the Dominion, where I had spent many happy hours years before. Here the Pileated Woodpecker is as numerous as it was formerly, which certainly is cause for much satisfaction. Softly walking over an old woodpath, I heard a kind of tapping noise. I knew at once that there was a Pileated Woodpecker near, and I soon located him. He was on a prostrate, extremely rotten log, that they here seem to prefer to everything else, no doubt because there are many fat, juicy grubs of certain woodboring beetles, or of the large black ants, in them. Then it is easy to approach the Logcock closely. One must move forward when the bird is tapping on the log, and stop when it stops. In this manner I have in

former years succeeded in approaching to within five and at another occasion to within ten feet, which would seem impossible when one considers the wariness of this lordly woodpecker in other places. This time I got up to within thirty feet, without really trying very hard.

The latest instance of my meeting this stately bird was June 15, 1926. This was at Sand Point, about thirty miles west of Houston, Texas. It was in the large live oaks, which formed the setting for a pond, in which hundreds of Little Blue, Louisiana, Black-crowned Night and Green Herons nested. The numerous white or nearly white young of the Little Blue Herons, perched on the dark green foliage of the bushes in and around this pond, made a picture that one never forgets. The Pileated Woodpecker did not seem to fit in such surroundings, but here it was and apparently very much at home, as it is wherever there is large timber. Of course this one, or rather this pair, was *Phloeotomus p. pileatus*, the southern form, like the one seen in Missouri.—C. W. G. Eifrig, *River Forest, Ill.*

Data Concerning the Breeding Range of Certain Marsh Birds.—Mr. Arthur C. Bent's "Life Histories of North American Marsh Birds," published as Bulletin 135 of the United States National Museum, is, like all his previous volumes of this series, a very fine piece of work, and as it covers several species of birds that breed in areas that I am very familiar with, I offer the following comments that may add to the data contained in the above mentioned work:

Glossy Ibis (*Plegadis falcinellus*).—On page 51, in giving the breeding range of this species, Mr. Bent says: "Definitely known as a breeder in America only in Florida (Micanopy and Bird Island, Orange Lake)." To this I may add that up to this year (1927) there have been two other small breeding colonies that I know of, one of which was cleaned out by gunners last season, the other in which I saw birds this year, sadly depleted. A few more years and this species will be missing from Florida entirely.

American Egret (*Casmerodius egretta*).—On page 144, Mr. Bent says of this species: "Virginia, one record (Arlington)." He evidently failed to note the remarks on this species in my "Birds of Virginia," page 41. They are still breeding in several of the tributaries of the James River. Chickahominy being one, up to the time I moved from that state in 1920. The salt water coastal birds have entirely stopped nesting in that area.

Reddish Egret (*Dichromanassa rufescens*).—In the breeding range given covering the Bahama Islands, on page 167, Andros Island has been omitted. I found these birds breeding abundantly in Grassy Creek, at the south end of the island, June 22, 1921.

Little Blue Heron (*Florida caerulea*).—On page 184, Mr. Bent includes only Hog Island, Virginia, in the breeding range of this species. More of these birds bred and still breed in Grays Creek and the Chickahominy River swamps, Virginia, than on the whole eastern shore combined, since the days of Mock Horn Island, back in the 1890's.

Yellow-crowned Night Heron (*Nyctanassa violacea*).—In the breeding range of this species, on page 218, among the Bahama Islands, Mr. Bent neglected to list Andros Island, where I have taken this species breeding at the south end of the island in June (21-22), 1921.

Virginia Rail (*Rallus virginianus*).—In his outline of the breeding range of this species, on pages 298 and 299, Mr. Bent neglected to give any Florida records,

leading one to infer that it does not nest that far south. It does, however, nest on the St. Johns River marshes, and other fresh water lakes, as far south as Palm Beach County. I found a nest and eggs on May 16, 1923, in that county, partly destroyed, with a large Cotton-mouth Moccasin still on the nest, and evidently with some eggs, and possibly the bird, inside.

Black Rail (*Creciscus jamaicensis*).—On page 331, in his outline of the breeding range of this species, Mr. Bent says: "Probably Virginia (Wallops Island)." On page 60 of my "Birds of Virginia," published in 1913, I mentioned an incomplete set having been taken by my father in 1911. This set was taken, however, on Cobbs Island, Northampton County, and not on Wallops Island. On May 16, 1917, a full set of six eggs was taken on this same island. On May 22, 1917, my father found a small colony of six or seven nests on Hog Island, bordering a small fresh water pond. This pond, however, and also the one on Cobbs Island, was completely washed away by the ocean water during a storm of the week following, and no more sets were taken by us previous to my leaving Virginia, in 1920. Since moving to Florida, I wrote on page 43 of my "Birds of Florida": "I am quite positive that they breed in this state * * * a dropped egg, etc." Since then, on July 13, 1926, Nicholson has found them breeding in Brevard County, on Merritts Island, and Mr. Bent quotes him at length. At this date it would seem evident that these sets found by Nicholson were second settings, on account of my having found a dropped egg in May in Dade County, and over 150 miles farther south. I am very glad that Nicholson found these full settings, for one of my friends in reviewing my "Birds of Florida," doubted that the Black Rail bred this far south. They will probably be found breeding in Florida by May 15, depending on the rainy season.

Purple Gallinule (*Ionornis martinicus*).—On page 339, in describing the bird life of the extensive marshes which border the upper waters of the St. Johns River in Florida, Mr. Bent says: "Least bitterns, sora rails, and boat-tailed grackles were breeding in the saw grass, etc." I think the recording of the Sora Rail must have been a mistake, for Mr. Bent does not give Florida in the breeding range under that species on page 313. I do not know of a record for Florida. Possibly Mr. Bent misstated Sora Rail for Virginia Rail, which latter species breeds there. Mr. Bent gives South Carolina as the northern limit of the range of the Purple Gallinule. In 1916, after my "Birds of Virginia" was published, my father took an incomplete set of four eggs of the Purple Gallinule on Hog Island, Northampton County, Virginia, on June 17. This was in the same little fresh water pond and marsh in which he had found the little colony of Black Rails in 1917. We had secured birds each spring on Hog Island for several years previously, but up to the time my book was published no nest with eggs had been found, so I did not include it in my work as a breeding bird, although I was convinced that it bred in Virginia. I feel sure that it will be found breeding in the upper marshes of Back Bay, Virginia, as well as at Currituck Sound, North Carolina, for I have seen it there during every month from May to September. In winter it is found on our Florida east coast, certainly as far north as Palm Beach County, and probably up to Brevard County.

American Coot (*Fulica americana*).—Concerning the breeding range of this species, Mr. Bent writes on page 367: "Formerly Florida (Monticello)," giving one the impression that this bird does not breed in Florida now. There are,

however, many places where it still breeds in Florida. My latest record is on Merritts Island, Brevard County, May 11, 1927, a nest in the cat-tails bordering a small creek running up into the island. As I have all of the sets of eggs of this species I need in my collection, and as there is no demand for such common sets in exchange, I did not disturb the set. I could easily have shot the bird with my little .22 caliber cane gun, so tame was she. I have seen old birds with young several times since moving to Florida, and I consider them rather a common breeder here.—HAROLD H. BAILEY, *Miami, Fla.*

Albino Red-tailed Hawk, Male.

An Albino Red-tailed Hawk.—On October 15, 1925, County Game Protector S. Maurice Shuler of Liverpool, Perry County, Pennsylvania, forwarded to the writer's office a living almost perfect albino specimen of Red-tailed Hawk (*Buteo borealis borealis*), which had been shot by J. Walter Zellers of Liverpool. The bird was subsequently mounted by Mr. Paul W. Sharp, taxidermist of Newport, Pennsylvania, who furnished the accompanying photograph.

Most of the plumage of this specimen was pure white, fresh, and silken. Three primaries and four secondaries of the right wing were pale brownish gray in color. One greater covert was normal dark brown. The eyes were deep brown; the bill and feet were yellowish flesh color, the claws pinkish white. The post-nuptial moult was virtually complete, there being but two old, discolored rectrices.

While there is nothing of great scientific importance in the occasional discovery of such a freak specimen as this, it is interesting to note that a very oddly colored individual may successfully meet the conditions of its environment. handicapped though it be by coloration which is neither properly protective nor properly aggressive. A White Gyrfalcon captures its prey the more easily, we are led to believe, because it is white in color as are its Arctic surroundings. Yet here is a creature of the Temperate Zone, well fed, obviously in good condition. existing successfully with a type of coloration not found in any of the birds of prey typical of this latitude. One is led to wonder, in considering such a case as this, whether the importance of aggressive coloration, so called, has not been somewhat overestimated.—GEORGE MIKSCH SUTTON, *Game Commission. Harrisburg, Pa.*

BIRD BANDING NEWS

Conducted by Wm. I. Lyon

BIRD BANDING IN 1927 ON LAKES MICHIGAN AND HURON

BY WM. I. LYON

Our fourth annual bird banding trip started from Waukegan, Illinois, early on the morning of July 3, 1927. Mr. Benjamin T. Gault, of Glenn Ellyn, Illinois, Robert L. Jackson, of Ohio, Illinois, and W. I. Lyon of Waukegan, Illinois, formed the party which started northward by auto. The first stop was at Racine, Wisconsin, where we were joined by Clarke C. Miller and Richard Miller, his brother.

We had a very pleasant trip to Egg Harbor in the Door County peninsula, Wisconsin. We arrived at the resort in time for dinner. During the evening they had a general assembly in the office where guests were requested to do their part with some stunt or give interesting experiences; one of our party explained the work of bird banding and asked any of the men who wished, to join us the next day in the trip to Hat Island. Mr. Smith, an attorney of Dubuque, Iowa, volunteered and proved to be a very pleasant companion and a great help.

Early in the morning, July 4, we were taken by boat to Hat Island and left there, with our lunch and supplies, for the day. On landing, we found the Herring Gulls practically farther advanced than the year before at a week later date. The water of Green Bay was eighteen inches higher than last year. This slightly changed the conditions about the shores of the island and possibly forced some of the gulls to nest in the interior which is fairly open, though covered with a dense growth of nettles mixed with poison ivy and thistles. Included in the vegetation were numerous high bush cranberries. The outer edges of most of the higher islands are well covered with trees. We located the usual number of Red-breasted Merganser nests, which we find on practically every island that we visit. We were very successful and banded 317 Herring Gulls, 2 Red-winged Blackbirds, and 1 Spotted Sandpiper. That evening we drove to Ephraim.

On the morning of July 5, we went to Sister Bay where we had made arrangements for boats to take us to Sister Islands. Harold Wilson, Henry Anderson, W. E. Bond and son William, Edward Wagner, James and Peter Dagett joined us on this trip. It started raining before we got on the boat and it continued all morning. Sometimes it poured and again, it cleared away a little between showers. By the time we were ready for lunch we were all soaked through, but after getting a large fire started we were warmed and dried out, and finished up the islands, making a very good record of 519 Herring Gulls, 3 Red-breasted Mergansers, 9 Red-winged Blackbirds, and 6 Spotted Sandpipers. The three adult Red-breasted Mergansers were caught and banded on Sister Island. Because of the rain, they stuck to their nests until we were too close for them to escape, as they are not able to spring into flight like a mallard, but have to run through the rocks and weeds to the water to "take off." In this way we were able to overtake them. On the south end of Little Sister Island, we found a colony of Common Terns with twenty-five or fifty nests, all with eggs. This was the first time we had found them on this island. That night when we returned, we found we had been advertised for a bird banding meeting in the local church. We had a very good attendance.

The next morning, July 6, we drove to Gills Rock where the Plum Island Coast Guards took us to Gravel Island. On account of so much high water, there was very little vegetation this year, but we found more young gulls than usual and were succesful in banding 387 Herring Gulls, 3 Black Ducks, and 5 Red-winged Blackbirds.

From Gravel Island the Coast Guards took us to Spider Island We found a few gulls around the north island which is really connected to the southern island, and as soon as we struck the southern island, the entire party was busy trying to capture Great Blue Herons, there being about twenty-five nests in this colony We succeeded in getting seven, which were photographed. Twelve Herring Gulls, one Black Duck, one Spotted Sandpiper, and one Red-winged Blackbird were also banded. We found that something had eaten a number of birds on the island. Two years ago one of the boys saw what was, apparently, a fox: and, because of the number of gulls eaten, we thought the fox must still be there. That night we returned to the Coast Guard Station and stayed with them for the next three days.

Early on the morning of the seventh, we went to Hog Island, a small island just east of Washington Island, where we succeeded in getting only thirty-eight Herring Gulls, as the higher water had covered up all the low beaches and the birds were nesting on high rocks. Again we spent some time getting four Great Blue Herons which were photographed, Mr. Gault trying some motion pictures. We continued our trip and passed Fisherman Shoal and Fish Island. These are but small bare islands, and the young gulls were so far advanced that, when anyone landed on the island, they would go out to the water and swim to the opposite side of the island. We did not land, therefore, but watched very closely and found no trace of any terns. There were just Herring Gulls nesting on those islands. We continued our trip to Little Gull Island, where we were successful the year before. Found many gulls and had plenty to do the rest of the day. There was a colony of Great Blue Herons on the center of this island but the trees were very high, and we couldn't spare any time in trying to catch the herons. We banded 381 Herring Gulls and 2 Black Ducks on this island.

On the morning of the eighth, we started early for Gravelly Island, Michigan, the home of the Caspian Terns. We carried all the photographing outfit we had on hand hoping for a big day. We were not disappointed because the terns were there in big numbers. On the southeast end of this island, which is a bare gravelly point, in other years there were many nests on the low ground, but the high water had forced the terns to nest up on the gravel bank. The young Caspian Terns stay in herds, so we drove them up into the bushes in the center of the island where many of them hid instead of running for the water. This gave us a chance to hunt them out and band them The total for this island was 203 Herring Gulls, 347 Caspian Terns, 5 Spotted Sandpipers, and 3 Red-winged Blackbirds. In the afternoon we visited Big Gull Island. This we found to be more heavily timbered and with cleaner ground. There was less poison ivy and nettles than on the other islands, but we found that the island was apparently inhabited by foxes, and there were quite a few remains of young gulls, some that had been killed but a short time. Thirty-four Herring Gulls were banded here.

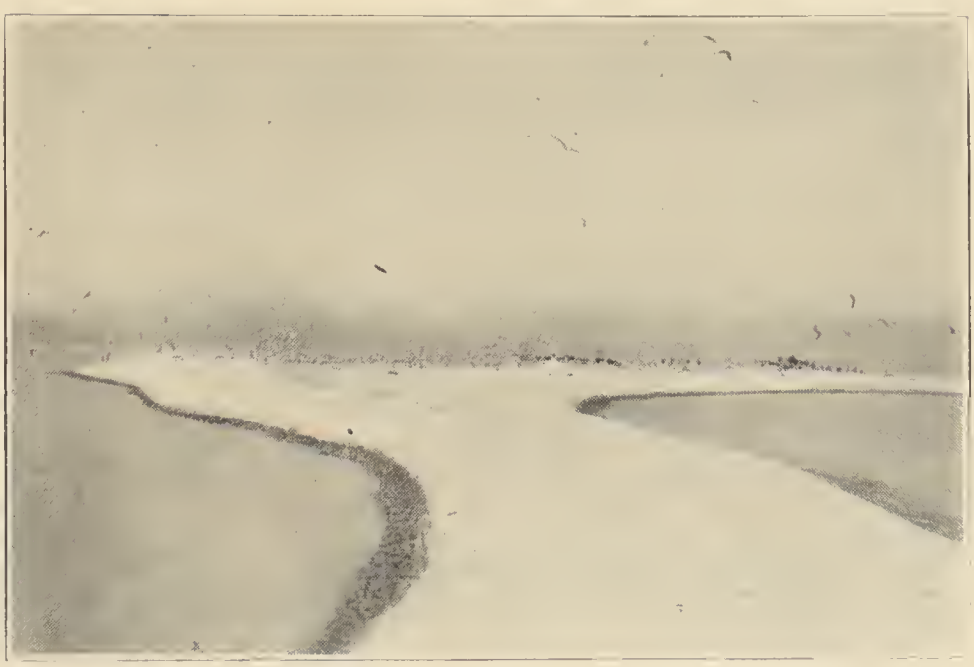
On July 9 we started away from the Plum Island Station at 4:50 A. M. to make a long run to Big Bay De Noc, or the north end of Green Bay. We had an extremely rough trip up the middle of the Bay. From observation with our binoculars, we could see that Rocky Island had become joined to Little Summer Island, and a fisherman's house had been built on Little Summer. Apparently there were no birds on the island. We kept on until we arrived at Snake Island. this was a new island for us to investigate. We had very good results at Snake Island, banding 148 Herring Gulls, 4 Bronzed Grackles, and 3 Red-winged Blackbirds. We then crossed over to Round Island and, during the trip across, we looked St. Vitals Island over with our binoculars, but, as the chart shows there are shallow and rocky spots in the water, we abandoned the idea of trying to get ashore. On Round Island something had apparently eaten the birds, as we found only 17 Herring Gulls to band. When we got out into Green Bay we were much pleased to find the north wind behind us and did not have such a rough trip as when going northward.

On the morning of July 10 we spent quite a little time photographing the Coast Guard station, men and boats, and then they took us to Gills Rock. The Plum Island Coast Guards have always been very hospitable and cordial in their reception to us, so getting back to the Plum Island station seems like getting home. It is one of the bright spots on the trip, as they are all fine fellows and a happy lot, and it is a great pleasure to be among them. After many farewells at Gills Rock, we got our cars out of the bushes, packed our baggage and were on our way, making Escanaba that night.

The next day, July 11, we spent in traveling and stopped in the upper peninsula to visit the Big Spring and found it well worth the short rough side trip. On arriving at St. Ignace we found we could still get a boat across to Mackinac Island that night, so we stored the cars and transferred the baggage in plenty of time to have dinner, then we had a pleasant run across on the steamer *Islander* to Mackinac Island. This island, we found, was inhabited by the Gullibles and after the steamer landed we found there was a long line of vultures ready to attack the Gullibles for whatever fees they could obtain from them. We visited the Coast Guards that night and made arrangements to start early the next morning for Snow Islands.

On July 12 we started with the Mackinac Coast Guards to the farther point of Snow Islands, passing Goose, LaSalle, Government, Boot, Gravel, Strongs. Crow, Bear and Rover Islands. From observation of these points we were satisfied that there were practically no birds nesting on any of these islands, all being fairly well covered with trees and, apparently, people had been camping on them, so we turned back, and as we approached Marquette Island we could see the Common Terns flying around Fuyards Point. We landed and found about fifty nests with not a bird hatched out. Goose Island was but a short distance and as we had very little time, we knew there would be but little difference with the Common Terns on Goose Island, so we started for St. Martins Point Reef. St. Martins Point Reef was where we found the large colony of Common Terns the year before. Here we found twenty-four young. There were, apparently, two or three hundred nests of Common Terns, nearly all with eggs, so we hurried on to St. Martins Shoal which was the island where we found the Ring-billed Gulls nesting with the Herring Gulls the preceding year.

Nest and Eggs of the Caspian Tern on Gravelly Island.
Note the Crayfish Claws around the Nest.



Shoe Island, the Home of another Caspian Tern Colony.

As we came to the nesting place of the Ring-billed colony great numbers of old birds rose into the air and as we approached the grounds, we found a much larger nesting ground that the one of last year. It seemed increased to four times the size, and there were a great many of the young birds running about, so there was a good job in store for us. We worked around the island as fast as we could and the results were 58 Herring Gulls and 350 Ring-billed Gulls.

We had to cut our time short and leave the island to get back to catch the steamer to St. Ingace that evening. After dinner we loaded the cars and drove them on the car ferry. When we landed at Mackinac City we left immediately for Charlevoix. The trip was made in the dark and there was a heavy storm. We arrived there at 2:00 o'clock in the morning and found that the steamer left at 8:30 the next morning for St. James.

July 13. We were up and on the dock with our baggage in time to get the steamer to Beaver Island. We had a rough trip. The wind was in the southwest and, although the steamer was of fair size it did a good deal of rolling in the trough of the sea, so some of the party were quite affected. We visited at Coast Guards Station at St. James that evening and found them ready and willing to take us out the next morning.

July 14. We started early for Shore Island, the home of the large Caspian Tern colony we had heard so much about. Shoe Island, we found, was entirely bare of vegetation. The young terns were assembled in flocks like sheep, and, as soon as we approached the island, they started for the other side. It was a hard job to keep many of them on the island but we were successful in banding 311 Caspian Terns and 1 Herring Gull. On the westward point of the island, we found a small colony of Common Terns, possibly fifty nests, but only ten were hatched and large enough to be banded.

We proceeded to Hat Island to band gulls: here we found four gulls that had been banded by some preceding party. We searched the island very carefully to see if there had been any ill effects from that visit due to the banding. There were practically no banded young birds dead; in fact, very few remains of any dead so, from all we could see, there had been practically no ill effects from the party that had visited the island. This was very gratifying because some uninformed persons have stated that banding colonies must cause large losses of young birds. The gulls were all very far advanced but we banded 57 Herring Gulls, and 1 Caspian Tern which probably swam over from Shoe Island. Hat Island was a mass of poison ivy and nettles. There were some Great Blue Herons nesting in the trees in the center, but we did not attempt to band them. On our return trip we passed close to Grape Island but could see only a few gulls. We also passed Mire Island and observed two small rocky bars, the largest of which is called Snake Island by the local people. This bar has no name on the government charts; in fact, it is indicated only as shallow water. Here we found a very large colony of Common Terns without a single egg being hatched. There were three or four hundred nests. Three had four eggs each, one nest had one colored egg and one pure white egg, while anothr had two eggs with a runt egg only about one-half the size of the other. There must have been a heavy storm about a month preceding our visit, as, at one spot, we found about one hundred eggs that had been washed from the nests in the grass to one edge of the island; these facts may explain the late hatching of Common Terns.

Nesting Site of the Ring-billed Gulls on St. Martins Shoal.

Ring-billed Gulls in the air at St. Martins Shoal.

On July 15 we left the St. James Harbor and went to the south of Garden Island, passing just north of High Island, where King Ben has his colony, to Gull Island. We found very few birds upon the shore, but on the west side of the island there seemed to be a large open field that was filled with small hazel brush, wild gooseberries and high bush cranberries. Here the gulls were not able to take to the water and swim, so they ran under the bushes to hide. We were successful in banding 166 Herring Gulls and 1 Spotted Sandpiper. We were much surprised to see large bunches of hairy puccoon in blossom, also quantities of bluebells, daisies, and lilies. There were nettles, poison ivy, and thistles, as usual, and during all of our stay in the Beaver Islands we found millions of biting flies, emphasizing the necessity of bird banders being entirely immune to high water and bug bites, poison ivy, nettles, thistles, and hardships. On the way back we passed Trout Island, on which a house had been built, which explained the absence of gulls. We landed at Whiskey Island but the birds took to the water as soon as they saw us coming, and we banded only eight birds. We were able to land the large boat close to the beach so it was very easy to get out. Right at this point there was a very unusual gull's nest about three feet wide and close to two feet high, containing one egg. On this island, besides a million flies, there were several legions of extra large mosquitoes and we did not stay very long. On the way home we passed by Squaw Island where the lighthouse is, and no birds were in sight, so we returned to St. James. For dinner we were given a rare treat to whitefish livers, and that evening, after writing the day's events and doing a little packing, we took in the local dance.

July 16. This morning we packed, took an auto ride about Beaver Island and caught the steamer to Charlevoix, from whence we ran to Manistee by auto that night. We had hoped to go as far as Ludington, but on account of the heavy storm we had to stop at Manistee. The next morning, July 17, we started early and completed the trip back to Waukegan in safety.

The numbers of birds banded were as follows: 2057 Herring Gulls, 350 Ring-billed Gulls, 659 Caspian Terns, 34 Common Terns, 3 Red-breasted Mergansers, 6 Black Ducks, 11 Great Blue Herons, 12 Spotted Sandpipers, 1 Killdeer, 17 Red-winged Blackbirds, 4 Bronzed Grackles. Total, 3154.

Waukegan, Illinois.

TERN BANDING ON LAKE ERIE

BY EDWARD S. THOMAS

We devoted four days from July 21 to 23, during the past summer to the study and the banding of Common Terns on Lake Erie. The expedition, sponsored by the Ohio State Museum, of Columbus, Ohio, was headed by James S. Hine, Curator of Natural History, and consisted also of R. W. Franks, John Thomas and the writer. Charles F. Walker joined us on July 23.

As on the previous year, practically the entire time was spent on Starve Island, but the last day was devoted to a tour of various other islands.

Everywhere, we found that practically all of the young were flying and that there were comparatively few eggs and nestlings. At the same time on the preceding year there had been plenty of downy young and eggs. Because of these conditions, the prospects looked very poor for banding any considerable number of birds. The young flyers were entirely too clever to permit our cap-

turing them, although we tried long-handled nets and other means to accomplish this purpose.

We spent one night on Starve Island, as we had done in the preceding year. On the last occasion there had been a bright, full moon, and we found that the birds were extremely active, flying and screaming throughout the night. Spotlights had been useless for capturing them, the birds flying at thirty feet, and seeming not in the least dazzled by the lights.

This year, however, there was no moon and the sky was heavily overcast. In addition, it began to rain by about ten o'clock. We waited until it was perfectly dark, and were delighted to find that the young, which had been scattered all over the island, were now massed in a milling, densely crowded flock on one end of the island. We were further delighted to discover that the young flyers which had hitherto been so wary, were very stupid in the glare of the lights, and could be captured with the greatest ease. In fact, we were able at times to scoop them five and six at a time into bags of mosquito netting which we had brought for that purpose.

We worked energetically from nine o'clock until after twelve. Franks and John Thomas captured the young, while Professor Hine and the writer banded them. We were able to band 650 young flyers in about three and a half hours, and we later estimated that we had secured nearly ninety per cent of the young birds on the island.

No adults were seen at any time. In spite of the fact that it was raining steadily none of the brooding birds were seen on their eggs. Furthermore, none were brooding at six o'clock the next morning. Several newly hatched nestlings were drenched to the skin, indicating that the parents had not brooded them during the night. As the sun became hotter, however, the birds began to come back to their nests, and by noon there was little evidence that there had been a storm on the preceding night.

It is known that the Herring Gulls customarily roost out on the water, but it seems inconceivable that the birds brooding on eggs would do so. Is it possible that the Common Tern customarily deserts its eggs and tender young during the night, covering them only to protect them from the burning sun? It would be impossible to make any positive deductions from this one experience, but the evidence seems to point to this conclusion.

We succeeded in trapping twenty-two adult birds at their nests, and in securing one return from last year. In addition, we saw one other banded adult. The results do not indicate the amount of effort expended in this direction. Franks and John Thomas spent a large part of three days in attempting to trap the birds. The traps were made of wire loops and bags of mosquito netting placed at the nests and operated by a pull string. Many of the birds were trap-shy, however, and would not return to the nest while the trap was beside it.

We saw none of the nine-hundred-odd young which we had banded in the preceding year, which lends support to the opinion expressed by Mr. F. C. Lincoln that the young of the Common Tern do not breed their second year, or even return to the site of their birth.

In all 1090 birds were banded, including 150 on Middle Island, Ontario.

Our rather hasty survey of the islands of Lake Erie during the past two seasons has resulted in the following data: the largest colony of terns is on Big

Chicken Island, where we estimated the population at about 3000 birds. Starve Island, Little Chicken, and Middle Island each have about 2000 birds and Chick Island (a small reef north of Big Chicken), about 1500. In 1926 there were several hundred birds about the "Rattle" of Rattlesnake Island, but, although we found signs of nesting, we found practically no eggs or young. Several pairs of grackles nesting on the rock may be responsible for this condition. In addition to the foregoing, we have found a few scattered pairs nesting on the rocks which border Green Island and on Lost Ballast, a reef just south of Ballast Island.

Columbus, Ohio.

[Editor's Note. Attention is called to the dates of banding the Common Terns. On July 12 there were but twenty-four birds large enough to band in a colony of three or four hundred nests in upper Lake Huron. On July 21 in Lake Erie nearly all of the young birds were flying. Apparently, there must have been a severe storm through upper Lake Michigan and Lake Huron which destroyed the first nests of the Common Terns].

The Fox Snake Feeds on the Eggs of the Common Tern.—Roland Williams, Winnetka, Illinois, reports that while at Camp Greenwood, Ellison Bay, Wisconsin, he in company with other members of the camp made three visits to Sister Islands On the second visit they noted that eggs of the Common Terns on the end of Little Sister Island had diminished in numbers. On the third trip, the colony seemed about destroyed. In searching for Sandpiper's nests he turned over an old rotten rowboat and out came a Fox snake, which was killed and taken back to camp. It was dissected by a member of the party, and found to contain eleven Common Tern's eggs.

Results of the banding on Sister Islands were 28 Herring Gulls, 2 Common Terns, 1 Red-breasted Merganser, 4 Spotted Sandpipers, 16 Red-winged Blackbirds. About 40 other birds were banded about the camp.—W. I. L.

E. A. Doolittle, Plainsville, Ohio, reports that, on July 1, he banded two Robins that were perfectly snow white albinos with pink eyes, and that they were both in the same nest.

ORNITHOLOGICAL LITERATURE

LIFE HISTORIES OF NORTH AMERICAN MARSH BIRDS. ORDERS ODONTOGLOSSAE, HERODIONES AND PALUDICOLAE. By Arthur Cleveland Bent. Bull. 135, U. S. Nat. Mus. Pp. i-xii + 1-490. Pls. 98 in black. Washington, 1926. Price, $1.25.

This volume is the sixth of the "life history" series under Mr. Bent's authorship. The present volume is arranged on the same general plan as its predecessors, and may be regarded as a compendium of our knowledge of the habits of the species treated. The previous volumes of the series have been reviewed in the WILSON BULLETIN, and little more can be said on the merits of the work; little needs to be said beyond expressing our satisfaction and gratitude.

We take it that it is the duty of the reviewer to point out criticisms, if there are any, rather than to indulge in obsequious and formal flattery. We will, therefore, not hesitate to point out what we consider to be the one weak feature of the work, namely the discussion of distributions. We do not underrate the difficulty of treating this subject within the space which is probably allotted. On the other hand we do not know of any topic connected with the bird's life history upon which complete information is more needed and more sought, at the present time, than its distribution.

The general distribution of North American species must now be fairly well known, though the information has not been collected for publication in any one place. The A. O. U. Check-list was never adequate in its treatment of ranges, and cannot be expected to be as full as may be desired. The treatment of distribution in Ridgway's "Birds of North and Middle America" is no more satisfactory than in the work under review; in fact they both follow the same plan of treatment, and one is about as complete, or incomplete, as the other. We necessarily look to the Government for a complete and adequate analysis of ranges with a published report thereon. Perhaps, in a measure, our expectation is increased by the fact that such a great number of persons have, for many years, made their annual migration reports to the Biological Survey. And through this co-operation the Government has been enabled to gather what is often spoken of as an unsurpassed accumulation of migration and distributional data.

In the present Bulletin a typical treatment of distribution contains seven sub-heads, viz., range, breeding range, winter range, spring migration, fall migration, casual records, and egg dates. These topics present an excellent outline of the subject. The difficulty is that when we examine these paragraphs for specific information we do not find it.

Let us make the matter clear by a simple illustration. The breeding range of the Coot is given on page 367. Breeding localities are mentioned for fifteen states (we refer to distribution in the United States only, for simplicity). We know that this does not tell the whole story of the breeding range of this bird. That is, the account is incomplete, and, therefore, unsatisfactory and disappointing in this particular. Likewise, breeding records of the Florida Gallinule are given for fifteen states (page 353).

Are we to conclude that these birds breed in only fifteen states out of the forty-eight? Or must we infer that the Biological Survey's records do not contain further information? With the extensive literature on North American birds it

should not be an impossible task to compile a correct and complete statement of the distribution of each species. This could be best done, of course, by means of maps. Such a complete compilation would be invaluable, and might be regarded as the most important service the Government could render to American ornithologists at the present time.

The question of expense might be raised, which should be immaterial, though it may not be. We observe, however, that fifty-five forms are treated in Bulletin 135, which, we may suppose, would require as many distribution maps. This Bulletin, as published, contains ninety-eight plates (most of which include two half-tone cuts) illustrating the birds, their nests and habitats. While we enjoy these pictures, and would not ask for their elimination, we yet believe that the distribution maps would be of greater value. The preparation of such maps, or a full statement of distribution in any form, would involve considerable labor: but considerable labor goes into the preparation of such reports, anyway, and a little more should not be prohibitive, considering the end in view.

We hope that this criticism does not fall upon the author, at least entirely: and certainly it does not concern the collaborator who prepared the paragraphs on distribution in this particular volume of the series. The plan of treatment seems to be the result of an evolutionary process. It does not follow Major Bendire's work, which seldom gives more than two lines to the Geographical Range. We notice, too, that Mr. Bent's more recent volumes give more space to distribution than do the earlier ones. It may be that another series of reports dealing with distribution only would supply the desideratum in a more satisfactory manner.—T. C. S.

Directory to the Bird-Life of the San Francisco Bay Region. By Joseph Grinnell and Margaret W. Wythe. Pac. Coast Avifauna No. 18, Cooper Ornith. Club. Pp. 1-160. Pl. 1. March 29, 1927. Price, $4.00.

In its general plan and execution the paper here reviewed may be regarded as a model local check-list. Three hundred and eighty-three species and subspecies are catalogued, of which three hundred and twenty-four are considered to be "full" species. Not many localities are fortunate in harboring so many kinds of birds.

The catalogue which constitutes the main body of the paper contains for each species a statement of its status, explicit or unusual locality records, and a brief reference list of writers on the particular form. We believe it would be helpful in a local catalogue of this kind to include the citation of the original description, in view of the rapidity with which new forms are being described. The nomenclature of the present list is so far away from the A. O. U. Check-list that the latter has little bearing. In our recent trip through the Yellowstone and the west we noted that the fastest automobiles usually bore California licenses. The introductory portion of the paper contains a list of recommended books, a bibliography of local lists, and a list of libraries and public museums in the San Francisco region. There is also included a list of species and subspecies arranged in the order of the new and proposed A. O. U. Check-list. We are prepared to like this new order, and trust that its final adoption and publication may not long be delayed.—T. C. S.

THE PRACTICAL VALUE OF BIRDS. By Junius Henderson. Pp. i-xii + 1-342. Published by The Macmillan Co., New York. 1927. Price, $2.50.

In 1913 the University of Colorado issued a 48-page pamphlet on "The Practical Value of Birds," by Professor Henderson. This brief survey has now been expanded into a book of useful proportions. The book deals exclusively with the food habits of birds, notwithstanding its somewhat more inclusive title. The first seventeen chapters, or about one-third of the book, deal with general principles, e. g., the balance of nature, quantities of food eaten by birds, birds in relation to various injurious animals, as seavengers and carriers of disease, destruction, protection, etc., etc.

The remainder of the book, though not divided into chapters, presents a systematic survey of the bird groups and their food habits. The amount of literature condensed in this volume is enormous, and one of the most valuable features of the work is the bibliographic citation at the foot of each page. This, with the bibliography at the end, affords us the most complete source book on the subject of economic ornithology now extant. We note with surprise, however, the omission of any reference to King's early paper on the "Economic Relations of Wisconsin Birds" (Geology of Wisconsin, Survey of 1873-1879, Vol. I, pp. 441-610), which must be regarded as one of the important pioneer works in this field.—T. C. S.

THAT COLLECTION OF GEESE FROM THE SAN JOAQUIN VALLEY, CALIFORNIA. By J. D. Figgins. Proc. Colo. Mus. Nat. Hist., VI, No. 6. Pp. 33-40. Dec. 23, 1926.

This renewal of the controversy over the *Branta canadensis* group of geese is interesting to the bystander because it affords a glowing example of the utter tangle which can be reached in the understanding of and differentiation of subspecies. The follower of this controversy will have to read closely to keep his bearings. Maybe we are prejudiced, but we are much impressed by Mr. Figgins' presentation of facts and the logic of his deductions.—T. C. S.

GENERIC NAMES APPLIED TO BIRDS DURING THE YEARS 1916 TO 1922, INCLUSIVE, WITH ADDITIONS TO WATERHOUSE'S "INDEX GENERUM AVIUM." By Charles W. Richmond. Proc. U. S. Nat. Mus., Vol. 70, Art. 15, 1927. Pp. 1-44.

This is a technical and scholarly paper of importance to all who are interested in taxonomic ornithology.—T. C. S.

PROCEEDINGS OF THE OKLAHOMA ACADEMY OF SCIENCE. Univ. Okla. Bull., Vol. VI, 1926. Pp. 1-221. Dated Jan. 1, 1927.

Several ornithological papers are found in this volume: "A census of the song and insectivorous birds of Oklahoma County for 1924-25" and "Observations on Some Oklahoma Birds," both papers being written by George B. Saunders, Jr. There is another paper by Mrs. Nice on late nesting of Mourning Doves. Roberta Dean Ortenburger presents a paper on "Bird Records from Southern Oklahoma." We doubt the wisdom of using nomenclature which has not been passed upon by the A. O. U. Committee, as has been done in several instances in these papers. If the Committee adopts the terms little harm will be done; but if the Committee rejects the terms, then things are simply messed that much more by premature publication. We look forward to the day when proposed nomenclatorial changes will not, by common consent, be published at all until they have been passed upon by an organized national or international com-

mission. Mention might also be made of several papers on amphibia, fishes, reptiles, and inseets appearing in this volume.—T. C. S.

10 Aars Ophold Iblandt Nordislandske Fugle. By G. B. Dinesen. Published by G. Dinesen, Dannebrogsgade 8, Kbhvn. V., Copenhagen, Denmark. (In Danish). Pp. 1-52. Priee, 5 Kr.

This pamphlet reeords the results of the author's bird study in Ieeland covering a period of about twelve years, from 1902 to 1914. Eighty-three speeies are listed, and apparently all records are based upon speeimens eollected.—T. C. S.

Sindbads of Science. By George Finlay Simmons. Pp. 1-75. Reprinted from the National Geographie Magazine for July, 1927.

Those who heard Mr. Simmons' lecture at the W. O. C. meeting in Chieago last fall will be glad to learn that the story of his long voyage in the *Blossom* is finally available in print. The fascinating story as told is no less so as written, and the ninety pictures greatly enliven it.—T. C. S.

A Biological Survey of North Dakota. By Vernon Bailey. No. Amer. Fauna No. 49. Pp. 1-226. Washington, D. C., Deeember, 1926. Price, 60 eents.

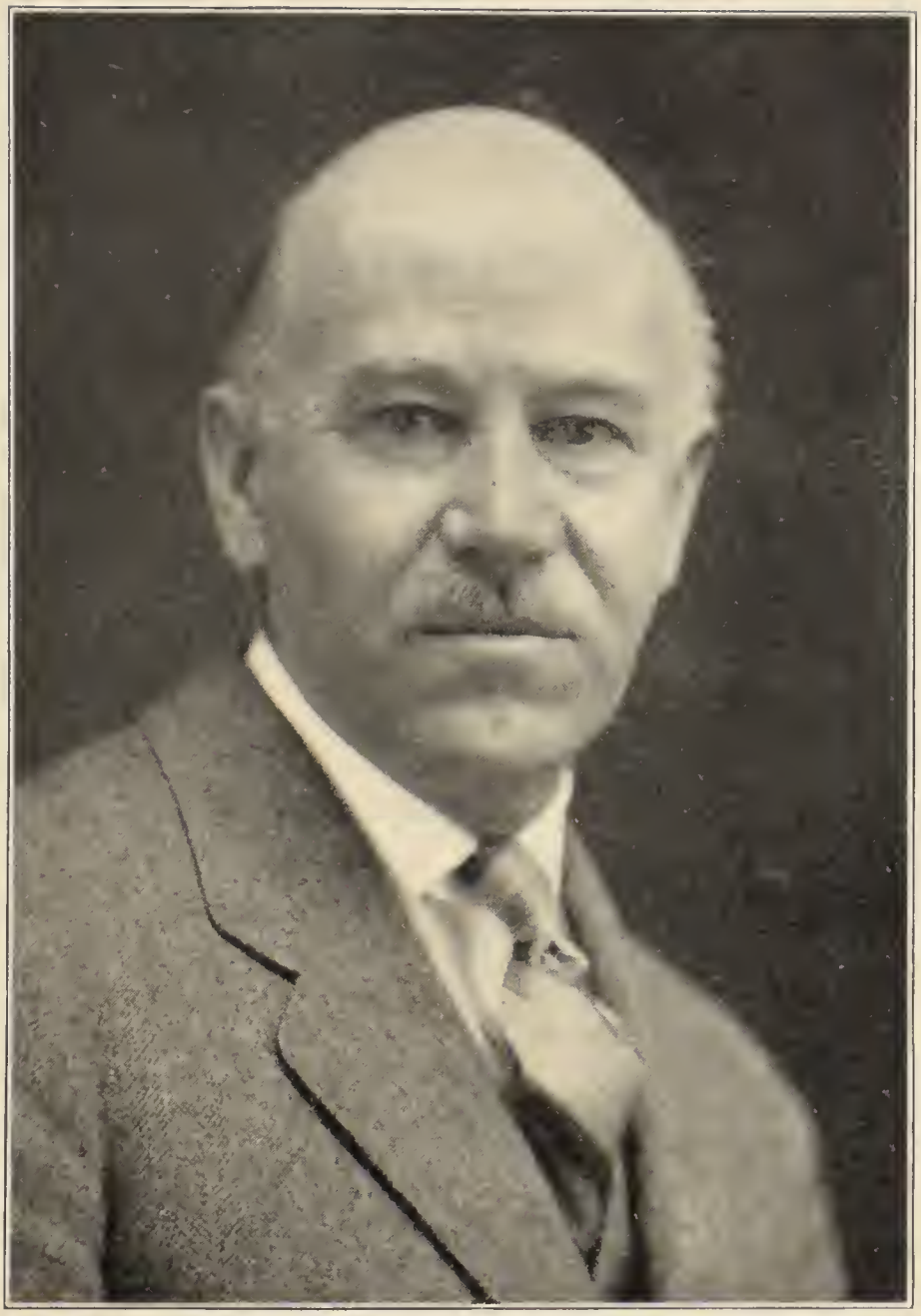
The greater part of this paper deals with mammals, but pages 3-16 deal with physiography and life zones. The latter diseussion is of interest to the student of birds or other groups within this state. Lists of eharaeteristie mammals, birds, and plants are given for each of the life zones represented in the state. The large inserted map shows that practically the entire state is within the Transition life zone; small extensions of the Upper Austral appear in the southwestern and southeentral portions of the state, while a still smaller region in the northcentral portion is marked Canadian.—T. C. S.

Prairie Birds. By B. J. Hales. Published by the Maemillan Company of Canada, Limited, Toronto. Distributed in the United States by the Macmillan Company, 60 Fifth Ave., New York. 1927. Pp. i-xviii + 1-334.

The author presents in this booklet deseriptive sketehes of nearly two hundred and fifty of the eommon birds which inhabit the prairie regions, although many of the forms selceted are strictly woodland types, as, for instance, the Red-eyed Virco, eertain grouse, woodpeckers, wood warblers, and thrushes. The author states in the prefaee that the book may be "quite as valuable for what it omits as what it ineludes," meaning that the beginner is often eonfused in his ornithologieal reading by the aecounts of birds whieh are not to be found in his region. The list as selected, perhaps partieularly for the region of Manitoba, eontains certain species and omits others which we would omit or include in a corresponding list for the prairies of Iowa. The author's remarks in many cases give us new side-lights on eertain speeies.—T. C. S.

The Summer Birds of Central New York Marshes. By Aretas A. Saunders. Roosevelt Wild Life Station Bull., Vol. 3, No. 3, September, 1926. Pp. 335-475. Pls. 19, Figs. 64, Map 1. Priee, $1.00.

Mr. Saunders here gives us a very eomplete and original treatise on bird life in the marshes The notes on the various speeies of birds are based upon the author's own field work under the auspiees of the Roosevelt Wild Life Station. The paper is illustrated by means of two eolored plates, showing eighteen figures, by Sawyer, and numerous half-tones from photographs, a few of which



LOUIS AGASSIZ FUERTES
1874-1927

are rather poor. The author discusses very thoroughly the value of marshes as conservators of many forms of wild life, and concludes that marsh birds are on the decrease because of extensive drainage of marshes—a fact which is not new, but which is here confirmed after careful study.—T. C. S.

The Audubon Bulletin. Spring and Summer, 1927. No 18. Illinois Audubon Society. Pp. 1-56.

As usual this bulletin is full of interesting reading matter. Mr. Schantz writes an entertaining account of a trip to the home of Robert Ridgway Mr. Ridgway himself contributes a paper on the relations of birds to the farmer and fruit grower. An intimate sketch of Bewick's Wren reports it breeding in the sand Dunes of Indiana. Miss Sherman's article entitled "Down with the House Wren Boxes" is reprinted in full, from the Wilson Bulletin of March, 1925. Announcement is made that a new and revised edition of the check-list of birds of Illinois is to appear early this fall.—T. C. S.

NECROLOGY

Louis Agassiz Fuertes. Born February 7, 1874, at Ithaca, N. Y. Died August 22, 1927, at Unadilla, N. Y., aged fifty-three years. Mr. and Mrs. Fuertes were returning from a week-end visit with Dr. Frank Chapman, at Oneonta Park, N. Y., when their car was struck on a dangerous railroad crossing. Mr. Fuertes was almost instantly killed, possiby the burning of the car contributing to the fatality. It is a fact to arrest our attention that Mr. Fuertes, after having made extensive travels through the wildernesses of South America and Africa, should meet a tragic death within the confines of civilization.

Mr. Fuertes won unusual distinction in two different roles. He was a great artist; as a painter of birds the world has produced no superior, and among American bird artists he was, by common consent, regarded as the leader. Then, as a man Mr. Fuertes was an unusual success. This is shown by the words of esteem universally expressed by those who came in contact with him. He was comrade and companion to those with whom he camped in the wilderness; he was counsellor and friend to the ambitious youth; and he was the wit and life at many professional gatherings, such as the meetings of the American Ornithologists' Union. So, in all these circles his absence will be mourned with genuine sorrow.

We cannot attempt here to give a complete biography, nor to enumerate the many bird books illustrated by his pencil and brush. It may not be generally known that Mr. Fuertes painted the backgrounds for many of the habitat groups in the American Museum of Natural History. On the recent Chicago scientific expedition into Abyssinia Mr. Fuertes was the official ornithologist. As such, his report, which consisted of paintings of Abyssinian birds and an uncompleted manuscript, was recovered from the ruined car. Mr. Forbush has stated that Mr. Fuertes had completed all of the colored plates for the second volume of the "Birds of Massachusetts and Other New England States," and also some of the plates for the third and final volume.

Mr. Fuertes became an active member of the Wilson Ornithological Club in 1905, and maintained his membership continuously to the time of his death. Whatever may be the misfortune in this sudden and tragic death, few men have the privilege of erecting for themselves the lasting fame that will live with the name of Fuertes.—Wm. I. Lyon.

TO OUR CONTRIBUTORS

Our members are urged to submit articles for publication in the BULLETIN Short items are desired for the department of General Notes, as well as longer contributions, especially pertaining to life-history, migration, ecology, behavior, song, economic ornithology, field equipment and methods, etc. Local faunal lists are also desired, but they should be annotated, at least briefly, and should be based upon sufficient study to be reasonably complete. Authors are asked to include the common name, the scientific name (from the A. O. U. check-list), and annotations, and they should be arranged in this order. The annotations should include explicit data concerning unusual species. Omit serial numbering.

THE MANUSCRIPT. The manuscript, or copy, should be prepared with due regard for literary style, correct spelling and punctuation. Use sheets of paper of good quality and of letter size (8½x11 inches); write on one side only, and leave wide margins; if at all possible manuscript should be prepared with a type writer, using double spacing and a reasonably fresh, black ribbon.

The title should be carefully constructed so as to indicate most clearly the nature of the subject matter of the contribution. Where the paper deals with a single species it is desirable to include in the title both the common and the scientific names, or, to include the scientific name in the introductory paragraph. Contributors are requested to mark at the top of the first page of the manuscript the number of words contained. This will save the editor's time and will be appreciated.

Manuscripts intended for publication in any particular issue should be in the hands of the editor thirty days prior to the date of publication.

ILLUSTRATIONS. To reproduce well prints should have good contrast with detail. In sending prints the author should attach to each one an adequate description or legend.

BIBLIOGRAPHY. The scientific value of some contributions is enhanced by an accompanying list of works cited. Such citations should be complete, giving author's name, full title of the paper, both the year and volume of the periodical, and pages, first and last.

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300	2.75	3.50	4.25	5.00	6.25	7.50	8.75	10.00	11.25	12.50	13.75	15.00	4.00
400	3.25	4.00	4.75	5.50	6.75	8.00	9.25	10.50	11.75	13.00	14.25	15.50	5.00
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Annual Meetings of the Wilson Ornithological Club

	Retiring President
1914—Chicago. February 5. Chicago Academy of Sciences.	
1914—Chicago. December 29-30. New Morrison Hotel	T. C. Stephens
1915—Columbus. December 28-29. With the A. A. A. S.	T. C. Stephens
1916—Chicago. December 27-28. New Morrison Hotel	T. C. Stephens
1917—Pittsburgh. January 1-2, 1918. With the A. A. A. S.	W. F. Henninger
1918—No meeting on account of the exigencies of war	M. H. Swenk
1919—St. Louis. December 29-30. With the A. A. A. S.	M. H. Swenk
1920—Chicago. December 27-28. With the A. A. A. S.	R. M. Strong
1921—Chicago. December 26-27. The Field Museum	R. M. Strong
1922—Chicago. October 26	T. L. Hankinson
1923—Cincinnati. Dec. 31-Jan. 1, 1924. With the A. A. A. S.	T. L. Hankinson
1924—Nashville. November 28-29-30. Peabody College	A. F. Ganier
1925—Kansas City. December 28-29. With the A. A. A. S.	A. F. Ganier
1926—Chicago. November 26-27. Chicago Academy of Sciences	A. F. Ganier

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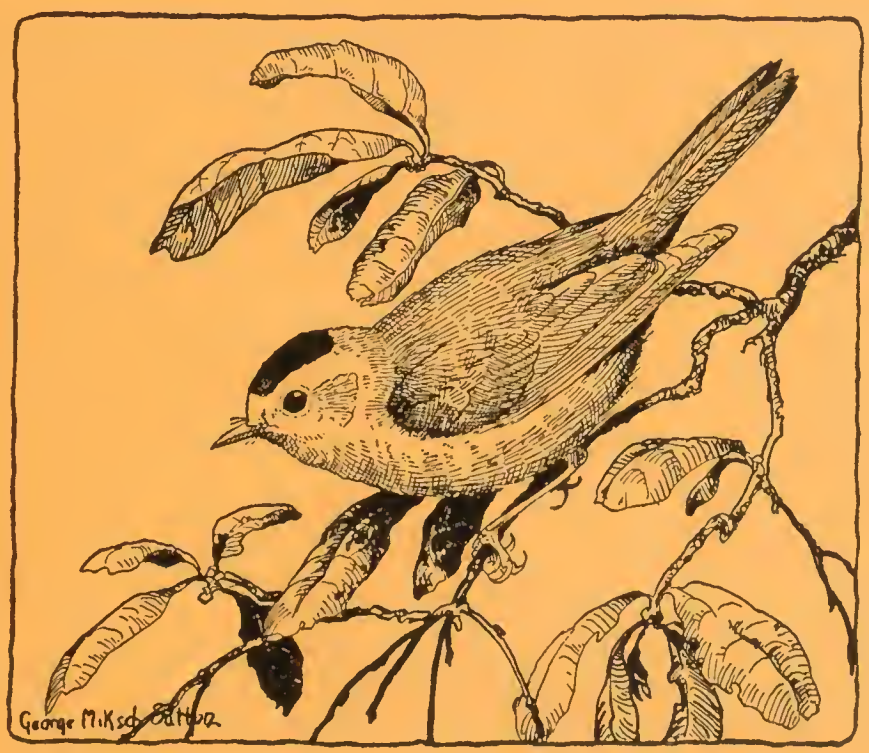
THE WILSON BULLETIN



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THE WILSON BULLETIN

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All articles and communications for publication, books and publications for notice, and exchanges, should be addressed to the Editor.

New subscriptions, changes of address, and applications for membership should be addressed to the Secretary. Personal items, news of events in the scientific world, and other notes suitable for our "Notes Here and There" department may also be addressed to the Secretary.

Claims for lost and undelivered copies of the magazine may be addressed to the Editor.

THE WILSON ORNITHOLOGICAL CLUB

Founded December 3, 1888. Named after Alexander Wilson, the first American ornithologist.

The officers for the current year are:
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The following societies are affiliated organizations:
The Nebraska Ornithologists' Union.
The Iowa Ornithologists' Union.
The Kentucky Ornithological Society.
The Tennessee Ornithological Society.

Laughing Gulls

DEC 21 1927

THE WILSON BULLETIN

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Vol. XXXIV (New Series) Whole Number 141

DOWN BIRD ISLAND WAY

BY J. J. CARROLL

Bird Island, lying in Laguna de la Madre off the Texas coast, is in springtime a spot of never failing interest to the ornithologist no matter with what frequency he may visit it. This island is not of very easy access because of the shallow waters of the Laguna. On this account a boat of light draft is required—a craft which is really little more than a skiff equipped with an out-board motor. Motive power of this sort is more or less uncertain in its functioning and one depending on it faces the possibility of completing the voyage with oars. But neither this prospect nor the unsparing rays of the summer sun has potency to diminish the bird student's enthusiasm once he is on his way.

On the morning of June 17, 1926, the sun was beaming down in its usual ardent fashion as four of us, including the boy operating the motor, set out from Flour Bluff, Bird Island, eighteen or twenty miles to the south, being our goal. My two other companions were L. D. Garrison, a lumberman of Corpus Christi, and his son Donald. Neither of these gentlemen shared my ornithological enthusiasm, their incentive being a combination of curiosity to see what bird life on the island was like and a desire for a day's outing. They were mildly tolerant of my consuming interest in the birds.

Hardly had we got under way when things of interest began to come under our observation. Standing in the shallow water with long necks outstretched, several Ward's Herons eyed us suspiciously as we glided by. A few Least Terns were making their swallow-like descents, skimming gracefully over the surface of the water. It was only near Flour Bluff that we saw these beautiful little terns. Presently we passed a flock of twenty or thirty Mexican Cormorants, and five or six Brown Pelicans sailed by with quiet dignity. A little way out the Caspian and Royal Terns began to appear in considerable numbers as did also the Laughing Gulls. They hovered over the

schools of small fish that literally swarm in the shallow waters of the Laguna. In nearly any direction we might see a company of these gyrating fishermen. Frequently one would plunge into the water to come up with a luckless fish held crosswise in his beak. His quarry thus captured the long flight to the island would begin, twelve or fifteen miles away. When on the way to their nests with food for the young, they would fly only a foot or so above the water. Often a Laughing Gull would fly along directly over and not far above the boat, evidently mistaking us for fishermen and looking forward to a feast off refuse.

Young of the Brown Pelican. Bird Island, June 17, 1926

Presently came in sight three Man O'War Birds soaring majestically on their long narrow wings. Later we were to see one of these peregrine buccaneers harry a tern till in desperation it dropped its precious fish which the marauder quickly pounced upon.

As the day wore on the heat grew more pitiless. There was no wind. Scarcely a ripple disturbed the surface of the water. On our left the glistening white sand-dunes on Padre Island appeared entirely detached and dancing in mid-air. But Bird Island was at last in sight. Within a short time we could see faintly the glint of flashing white wings. As we drew gradually nearer the circling birds became more and more distinct, until finally it became evident that the myriad nesting sea-birds one usually finds on this island were awaiting us. But in reality they did not await us; they came to meet us, a milling, scolding throng. The boat's bottom grated on the sand some fifteen or

twenty feet from the island's beach, and Graflex in hand I lost no time in leaping overboard to wade the rest of the way. We landed near the south end of the island where its level above high tide is a matter of inches. At this point there is no vegetation of any kind—just the bare sand and shell.

The Garrisons were out with me and we quickly found ourselves in the midst of a Black Skimmer nesting area. The nests were numerous, situated only a little way apart, well defined cavities scooped out of the sand, with no lining of any sort. They contained from one to five handsomely marked eggs, the ground color being a creamy white to buff, spotted or boldly splotched with varying shades of brown. The marking in most cases was of large pattern. There were some hundreds of nests, but I made no effort to make anything like a definite count.

No young were found which I regretted because there are few fledglings which interest me more than immature Black Skimmers. Later in the summer, July, I found two nesting colonies of these birds on Matagorda Peninsula some hundred and twenty-five or fifty miles up the gulf coast from Bird Island. A few of the nests in these colonies contained eggs apparently fresh even at that date. Most of the nests, however, held young birds varying in age from newly hatched to a size nearly ready to take flight. I spent sometime observing them. When an intruder appears near the nesting grounds the parent birds feign injury and inability to fly, very much after the manner of the Mourning Dove. They lie on the ground fluttering and going through all sorts of antics in an effort to decoy the supposed enemy away from the eggs or young. Another curious thing I have noticed with regard to these birds is their determination to compel their young to lie flat on the sand motionless and unblinking, when an intruder is about. If a young bird takes fright and scuttles across the sand an adult, whether the parent I do not know, will fly in pursuit and with his bill knock him heels over head, or even pick him up and fly a little way before dropping him. Then the youngster stretches out flat on the sand, moving not a muscle, and imagines himself hidden. But their bright eyes remain open as a number of pictures I have made will testify. The half grown birds are inclined to go out into the water and swim about near the shore line.

Leaving the Skimmer colony we proceeded toward the north end of the island escorted by a hostile convoy of countless Laughing Gulls, Caspian and Royal Terns and the yet indignant Black Skimmers. The

air was teeming with birds, all vociferously and doubtless profanely expressing their disapproval of our presence.

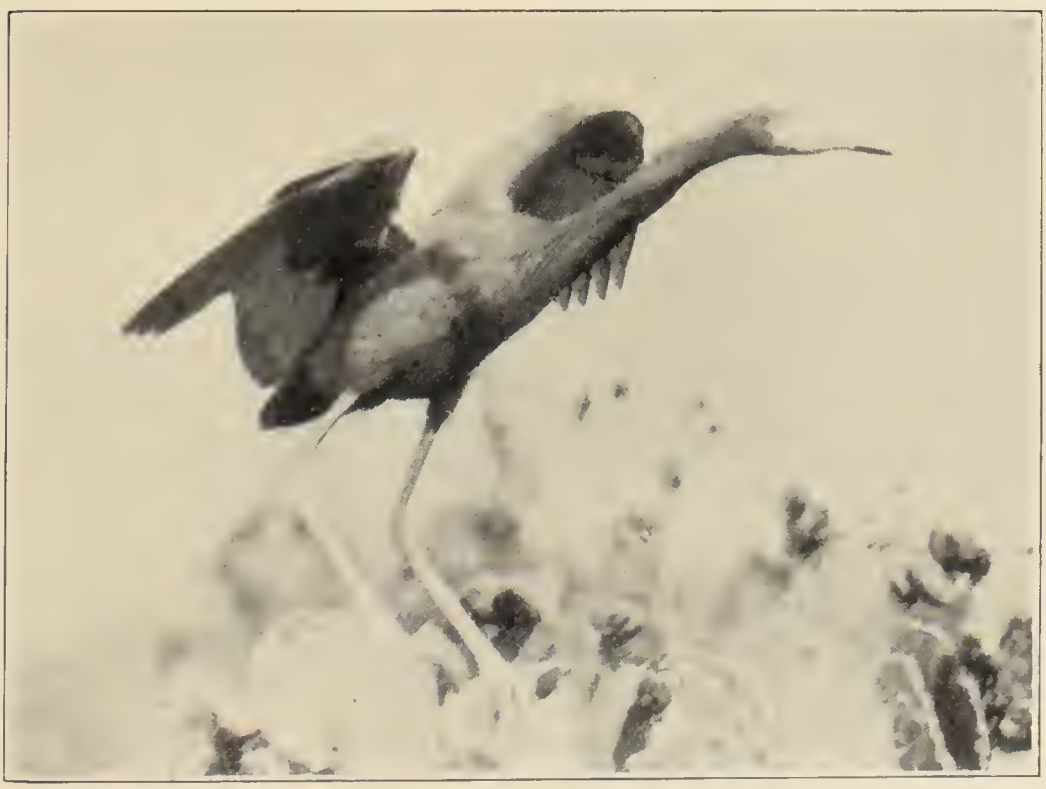
The next nesting area we encountered was occupied by Caspian Terns. They were situated on higher ground and at this point there was some sparse vegetation. This species is apparently not so inclined to nest on bare spots as is the Royal Tern. Most of the nests contained two eggs or young, while a few contained only one. The nests were more or less concealed in the weeds and boasted some lining. The eggs are attractive in appearance—a background of buff marked with specks, spots and scrawls of brownish with often an underlying grayish

Bank of Royal Terns. Bird Island, May 15, 1927

hue. The adult birds fiercely resented our intrusion and were warlike in their remonstrance.

Near the center of the island was located an enormous colony of Laughing Gulls. Here there grew a sort of beach grass and a succulent weed. The nests were to some extent hidden and were lined with grass and weeds. The nests being only a few inches apart, we were compelled to walk with the greatest care to prevent stepping on them. They contained two or three eggs or young. The eggs average much darker than the tern eggs, the background brownish or dark buffy with darker markings in the shape of spots and blotches. Of course, as is the case of most gull eggs, many specimens varied from the average. These little gulls are curious looking striped and mottled chaps and

Laughing Gulls standing near their nests



Reddish Egret leaving nest in the cactus

have the habit of thrusting their heads under a bit of grass or weed and feeling perfectly secure.

The next homesite we invaded was occupied by the graceful Louisiana Heron. Here we found the first real nests. They were well constructed of twigs and sticks, laid on the grass and weeds a foot or so above the ground. The nests contained from two to four eggs or young, the latter varying in age from freshly hatched to nearly fully fledged. The adult bird manifested a lively interest in our presence, but were nothing like so resentful as the terns, gulls, and skimmers. Leaving their nests they would fly only a short distance away and eye us inquiringly. Not all of these herons were nesting together. They were divided into several groups, never mingling with other species of birds.

What I have said concerning this heron will apply pretty well to the seventy-five or one hundred pairs of Reddish Egrets we found nesting on the island, except that the egrets did not accept the invasion with the Louisiana Herons' complacency. Their displeasure was expressed chiefly by the standing on end of every neck feather and the erection of the crest which gives them a ferocious aspect. The nests of the egrets were of about the same construction as the herons and similarly located. We saw one adult egret in the white phase and only a single white immature bird.

The explorations I have just described were not made in quietude by any means. Notwithstanding we were no longer in the immediate vicinity of their nests, the gulls, terns and a few skimmers accompanied us and by their shrill incessant cries demonstrated their continued ill-will. While hundreds had returned to their nests the air above our heads was still filled with angry birds.

We were now approaching the northern end of the island where grew the prickly pear cactus, spreading in clumps over a considerable area. Some of these cacti reached a height of four or five feet and many of the clusters would measure fifteen or twenty feet in diameter.

Here we found first the Brown Pelican, several hundreds of pairs, and then the Ward's Heron, perhaps one hundred nests. Many of the pelicans' nests were built up in the cactus—great thick affairs made of sticks both large and small, lined with weeds. Others were built on the ground sometimes not more than two feet apart. Those on the ground in many cases were twelve or fifteen inches in height, dirt entering largely into their composition. Apparently they were used from

Part of the Colony of Brown Pelicans

Royal Terns and Cabot's Terns, at nests

year to year, being repaired and augmented each spring. There was a remarkable difference in the nesting time of these birds. Nests with incomplete complements of eggs were found and right alongside would be young nearly as large as the adult birds. Not infrequently a young pelican would be nearly twice the size of his nest mates. The decaying fish lying all around made this nesting area particularly ill-smelling. As we approached large numbers of half-fledged birds would gather in groups and waddle slowly away while the old birds looked on with an air of benevolence and kindly interest. No other bird within my knowledge can approach the pelican for grave dignity. As the young birds were awkward and none too sure of foot at best it was amusing to watch the difficulties into which they would fall when attempting to hasten away from us. One would stumble over the uneven ground and for support would throw a wing over the shoulder of his neighbor, who, losing his balance because of the added weight would reach frantically for the next bird and so on until the whole company was in confusion. When they saw that escape by flight was impossible they would fall back upon their last defense which is a disgusting performance. With much retching and contortion and gaping of their enormous mouths—but I will spare you the details. It is sufficient to say that much fishing on the part of their respective parents thereby went for naught.

A little farther north we found the Ward's Heron. Their nests were wide and thick platforms of sticks—some of them as thick as one's wrist—and represented much labor. Many of them contained four or five eggs of the usual bluish green color, while others contained young of all ages, from chicks hardly dry to practically full fledged birds. One of them was so large that I felt sure he would fly if sufficiently urged, and to satisfy myself on that point I gave chase. He made no effort to fly and his attempts to co-ordinate the movement of his long awkward legs was almost a failure. Finally he got under way toward the beach with me in close pursuit, when he slipped and began to skid in such piteous fashion that I had not the heart to tantilize him further. The nesting time of the Ward's Heron covers considerable time, as I have seen their eggs from February to July.

Between the cactus and the shell and sand beach was found a large colony of Royal Terns and they met us with a vociferous challenge. The nests were but slight depressions with no lining of any sort. They were located near together and in nearly all instances contained but a single egg.

Reddish Egret, in white phase, at nest in the cactus

Black Skimmers resting at the edge of the water

The eggs of this species average lighter in background color than those of the Caspian Tern, being usually yellowish white, the markings being of several shades of brown distributed pretty well over the entire egg, small dots, large spots and splotches. Hundreds of young Royal Terns were gathered together near the edge of the water, the old birds hovering over them continuously.

Nearby we found a small colony of Cabot's Terns. One nest, if we may so designate a shallow hollow in the sand, contained a young bird. The others contained one egg each, and beautiful eggs they were. The background varied from creamy white to buff. The markings were small and large spots and scrawls of dark brown. They were very near together and the efforts at nest making had been negligible. At a short distance was a small colony of Black Skimmers but not more than a dozen nests.

One Great-tailed Grackle's nest containing three eggs was found in the top of some weeds—the only land birds we saw.

I had made a good many pictures of nests, eggs, young birds and some adults and as I had not had much time in many years to devote to bird study I was having a thoroughly delightful experience. The Garrisons lent their aid in every way possible and I was hopeful that I might proselyte them into the ornithologists' fold. I was delighted therefore to have a letter from Mr. Garrison later asking where he might procure some books on birds, as the deadly virus had done its work.

We returned to the boat tired but happy and I have many a picture to remind me of one of the most enjoyable experiences I have ever had.

Since the foregoing was written it has again been my pleasure to visit Bird Island, Mr. Garrison being my companion as before. Our trip was made earlier this year (1927), May 14, and as we found conditions in some respects different I have thought it might be of interest to record them.

Long before we reached the island I caught an occasional glimpse of the bright sun's rays falling on a huge snowy form with black tipped wings, flying about in majestic circles — the White Pelican. While others had found it nesting there on rare occasions the experience was new to me. In fact the boatman assured me that we would find no nests but I was hopeful nevertheless. The winged hosts came out to hurl the usual maledictions—gulls, terns, and skimmers. It was

Nest and Eggs of Brown Pelican
Bird Island, June 17, 1926

Nest and Eggs of Brown Pelican
Bird Island, June 17, 1926

Nest and Eggs of Ward's Heron
Bird Island, June 17, 1926

Nest and Eggs of Louisiana Heron
Bird Island, June 17, 1926

Nest and Eggs of Laughing Gull
Bird Island, June 17, 1926

Nest and Eggs of Reddish Egret
Bird Island, June 17, 1926

immediately evident that changes had taken place. The Brown Pelicans had abandoned their old quarters in the cactus and had established two large rookeries in entirely new locations, both being but a few steps from the water's edge on the open shell beach. The nests were arranged in long lines paralleling the shore in ranks of five or six, set near together, great heaps of weeds and sticks. Most of the nests contained three or four quite naked young who gaped and snapped at us as we passed. Only a few contained eggs. We were astonished at the great number of adult birds lying about dead.

The Ward's Herons, too, had moved to a new location and seemed greatly reduced in numbers. Nearly all nests contained young one-half to two-thirds grown.

The Reddish Egrets apparently had increased several fold and many of the nests were built flat on the ground. Nearly all nests

Eggs of the Black Skimmer
Bird Island, June 17, 1926

Young of Black Skimmer, "hiding"
Matagorda Island, July, 1926

contained eggs, a few holding young just hatched. One beautiful white one was found and agreeably posed for its portrait over its nest in the cactus.

The Louisiana Heron appeared to be no better than holding its own if indeed it was doing that. All nests contained eggs. Nesting conditions were unchanged.

The Laughing Gull was more widely dispersed, the grass and weeds in every direction being filled with their nests, all containing eggs. It was difficult to walk without stepping into a nest.

The Caspian Terns were found in more open situations than formerly and were divided into a number of widely separated colonies. Only a few nests contained newly hatched young and not a few nests held three eggs.

The Cabot's Tern was found occupying the identical spot used last year. Many hundred of eggs but no young.

The Royal Tern was more widely scattered, several colonies being found. In one case their eggs were lying within the limits of a Cabot rookery. No young.

Two nests of Black-crowned Night Heron were in the cactus, which the birds hurriedly left as we approached. They contained eggs. None of this species was found here last year.

The White Pelicans, seventy-five or one hundred in number, had all left the island and presented a beautiful picture as they swam in close formation only a short distance from shore. Presently we saw one leave the water and fly over and drop down into the cactus near the center of the island. We hurried to the spot and were delighted to find five nests, each containing one egg, and a large number ready for eggs. The nests were not nearly so elaborate as those of the Brown Pelican, being a mere depression in the sand with a handful of small sticks for lining. My information had always been that this species nested earlier than the Brown Pelican.

The Black Skimmers had just begun house-keeping only a few nests being found. Near one of their areas we found several nests of the Gull-billed Tern, another species not found last year. Its nest was a slight depression thinly lined with small twigs, each nest containing two eggs.

At a considerable distance we saw three white birds flying which might have been Snowy Egrets, Little Blue Herons or Reddish Egrets. As the white phase of the latter is so rare I should think it probable that they were assignable to one of the two first-named species, but they were too far away for identification. I had never before seen either a Snowy Egret or Little Blue Heron on the island.

A few Great-tailed Grackles were found as usual, and two dirty yellowish progeny of the Black Vulture hissed at us from their home under the cactus.

Two Mottled Ducks were flying around and an Avocet waded in the water near shore showing no indication of having a nest.

Last year none of the terns smashed their eggs as we approached, but this time all three species resorted to this peculiar and rather heroic defense—only a few however.

Houston, Texas.

RICHARDSON'S GROUSE IN THE YELLOWSTONE PARK

BY M. P. SKINNER

The first ornithologist to visit the Yellowstone National Park was C. Hart Merriam, with the Hayden Survey of 1872. Dr. Merriam found this grouse (*Dendragapus obscurus richardsoni*) in the Teton Mountains south of the Park, but apparently did not see it within the Park itself. Two years later Theo. B. Comstock did find it in the Park, and so reported it (Comstock, 1874, p. 75). Geo. Bird Grinnell reported it again in 1876, and was the first to note that "the specimens preserved on the trip seem to be intermediate between varieties *obscurus* and *richardsoni*." During the next thirty years, other visitors to the Park observed this bird, but, as they were invariably on short trips, or interested more in other matters, it remained for Col. Wirt Robinson to be the first to note it in 1907 as breeding. At the end of this article is a bibliography of all material I can find on the Richardson's Grouse in the Yellowstone Park. Most of these items are but a line or two in length, and all of them combined, even including my own notes, would not cover much over one page of the WILSON BULLETIN.

The Richardson's Grouse, *Dendragapus obscurus richardsoni*, has no distinct terminal tail bands and is resident in the Rocky Mountains from northern Wyoming north to Canada. The Dusky Grouse, *Dendragapus obscurus obscurus*, has a terminal gray band in the tail varying from a half to three-quarters of an inch wide, and is an inhabitant of the southern Rocky Mountains south of Montana and Idaho. Here in the Yellowstone National Park, we are in the borderland occupied by both the southern and the northern forms. It is very difficult to place these Park birds under either *obscurus* or *richardsoni*, for there are birds of each form present and all degrees of gradation between them. I once found a bird dead near the Buffalo Ranch that had no band at all on the end of its tail. Twice I have seen very dark birds with only a slight amount of gray tipping their tails, so that they were more typical of the Sierra Mountain form. Another time, I found a bird so tame that I could approach close enough to determine positively that he had more than three-quarters of an inch of gray on the ends of the middle tail-feathers. At other times, I have found feathers with terminal bands more than a half inch wide. There does not seem to be any segregation of the two forms within the Park, but, so far as I know, the different forms are found in all sections. Both

obscurus and *richardsoni* are larger than Ruffed Grouse, but the Yellowstone specimens are even larger than the average.

These grouse have a fine range, for the Yellowstone National Park is a large and diversified area of 3348 square miles, lying mostly in extreme northwestern Wyoming. Although narrow strips extend over into Montana and Idaho, all my notes on these grouse were made in the portion of the Park in Wyoming. In such a section as this, including areas at different altitudes above sea-level, height above sea-level becomes an important item. The lowest point in the Yellowstone Park, at the junction of the Gardiner and Yellowstone Rivers, is 5300 feet above the sea; the highest point is six miles distant at the summit of Electric Peak, just within the northern boundary and 11,125 feet high. A large share of the Park is a lofty, rolling plateau varying in elevation from 7000 to 8500 feet altitude, but dotted here and there with isolated peaks and ranges of mountains rising to 10,500 or even 11,000 feet.

While the surrounding country is dry and comparatively rainless, such an elevated region as the Park is peculiarly adapted to attracting and catching moisture, ensuring a generous rain and snow fall, and enabling a variety of herbage and forests to grow.

The lowest elevations are treeless, except along the larger streams. Along the smaller streams, there are thickets of brush. If there is any of the Sonoran Life Zone represented in the Park, it is by very limited areas in this treeless, sage-brush-covered, open country. The Transition Zone is also comparatively limited, but it is well named. For in the Yellowstone, it is truly a "transition" from the treeless lowlands to the higher uplands where the aspens (*Populus tremuloides* Michx.) and Douglas firs (*Pseudotsuga mucronata* Raf.) make their appearance. The great bulk of the Park lies within the Canadian Zone, although an important part is Hudsonian, and is covered by forests of lodgepole (*Pinus murrayana*), limber pine (*Pinus flexilis* James), Engelmann spruce (*Picea engelmannii* Parry) and Alpine fir (*Abies lasiocarpa* Hook). But even throughout these forests there are frequent open spaces, called upland prairies and parks, and many open, grassy meadows along the numerous streams. Where the valleys are less open, the streams are apt to be bordered by dense growths of many species of low willows. A small portion of the Park lies above the last white-barked pine (*Pinus albicaulis* Engel.), at timber-line, and is consequently in the Arctic-Alpine Zone.

Generally, the Richardson's Grouse are in the Canadian or Hudsonian Zones, but I have also seen several individual birds above tim-

ber-line in the Arctic-Alpine Zone, and even a few down in the lowest parts of the Transition. Most of the nests I have located were in the Canadian or Hudsonian Zones, but occasionally one was in the coolest parts of the Transition. Normally in summer, these grouse are on the ground, or on low logs and boulders; and they live mainly in the evergreen trees while the snow covers the ground. But, when skiing through the winter forests in December and January, I have had roosting birds burst out from under snow drifts. At other times, most of these birds roost in heavy coniferous trees. If not disturbed, they may stay in a small grove of trees, and not descend to the ground for several successive days. At such times, they eat needles for food and use the snow instead of water. When in trees unalarmed, or when they alight there after a flight, they are usually on the lowest branches, or not more than half way to the top, sometimes perched with bodies parallel to the limb, or sometimes crosswise. I have never seen them on top of the foliage, and I have never seen them fly *over* the forest except just above the lowest of the trees. Richardson's Grouse live in all kinds of brush and forest from the willows as low as 5500 feet altitude, through the service-berry (*Amelanchier alnifolia* Nutt.) areas, aspen groves, Douglas firs, limber pines, lodgepole pines, spruce, and white-bark pines to the stunted spruces at timber-line (about 9500 feet). I have seen them out on the open plateaus and high meadows above timber-line, almost up to the 10,000 foot level. These timber-line birds were seen from July to October, but they apparently went down into the forests during the winter. I have seen these grouse in thick-growing lodgepole saplings where the small trees were so thick it appeared impossible for the grouse to walk or fly through them; and I have also seen them out in burned forests, especially where there were berries to be had.

While Richardson's Grouse prefer the forests, I have found them out in the sage-brush (*Artemisia tridentata* Nutt.), sometimes as much as five hundred yards from the nearest tree. Usually, they are wild in such localities, and soon fly to the nearest trees for protection; but on May 31, 1921, one was found hiding under a two-foot sage-bush in the open. I have also seen single birds in open grasslands without brush and as much as two hundred yards from the nearest tree; and once I rode my horse past one in full view in the grass and within twenty feet of me. No doubt this tameness is largely due to the fact that they are absolutely protected and have nothing to fear from man within the Park. They often come boldly about the buildings of the

little village at Mammoth, and even walk across the lawns, both in winter, and when the tourists are numerous in summertime. I have sometimes thought the birds liked the open in winter, because of the sunny warmth there. Still, they are also out in the open on the warmest of summer days.

On the ground, they have a rapid, running gait to escape danger, but they frequently "freeze" in their tracks when they think they are unseen. I see them occasionally strutting along with their tails fanned out and combs swollen, even long after the mating season. Usually they are well groomed, trim and erect, but often they appear to hide close to, or behind, the trunk of a tree.

Richardson's Grouse are not social. Even a mated pair separate as soon as the mating season is over, and the male does not later rejoin his family. In fact, the indications are, that the females hide their nests and keep their families away from the males. Neither do the males associate together. The only groups of these grouse are the families of mothers and full-grown chicks.

Some Richardson's Grouse are very wild, but this seems generally to be due to a recent scare, or fright, and they are just as apt to be wild in heavy cover as they are out in the open. On the contrary, most of these protected grouse are remarkably tame. I often see them sitting in the open and watching horsemen, and even autos, pass by but a few feet away. I have even seen a tame wild grouse follow a man up a trail (October 1, 1917), and my note books are filled with such observations as: "I rode my saddle-horse past a grouse in plain sight and only ten feet away" (August 14, 1922). Even when a grouse flies, it may go "only a hundred feet," or be "loth to fly more than a few feet," or be "so tame he only flies a few feet when I ride past." Even a mother bird with young sat quiet and unobserved until "one chick flushed from under my horse's feet." A mother and eight chicks seen on June 27, 1924, allowed an auto to dash by within five feet. But when they do spring up in alarm, Richardson's Grouse generally fly up into a fir, spruce, or pine to a limb not more than twelve to twenty feet above, sometimes perching there nervously and sometimes in absolute quietness.

Although not here hunted by man, these grouse have plenty of other enemies such as wolves, coyotes, mink, weasels and all the other predaceous fur-bearers, as well as the Duck Hawks, Coopers' Hawks and Western Horned Owls. The Big Western Red-tailed and Swain-

son's Hawks do not bother the grouse even when they are small. I remember once watching a red-tail circling over head. I could not see what it was hunting, but apparently it was not Richardson's Grouse, for almost at the same time an undisturbed grouse and seven little fluffy youngsters were noted in the grass under the circling hawk. Soon, the mother grouse flew up into a small sapling and from there clucked loudly to her brood, while the little grouse tried their best to fly up to her, one at a time, on very shaky little wings. Sometimes I see a Richardson's Grouse with many tail-feathers missing, as if it had just escaped an enemy by the sacrifice of a few feathers. They rise suddenly from the ground with a thunderous racket, but usually fly quietly out of a tree. Often they sail away from a tree branch and off down a mountain slope without beating a wing. If they alight on the ground after such an alarm, they usually walk a short distance immediately afterward. Once while eating lunch, I saw a flock of grouse fly across a small pond rather than go around the end. Like other grouse, these birds are apt to fly one after another rather than all together as Bob-whites do.

Neither the Richardson's Grouse nor the Gray Ruffed Grouse (*Bonasa umbellus umbelloides*) are very abundant here, for the enemies just enumerated also thrive under the protection given to all wild life. The Richardson's Grouse are resident birds with only a limited migration down the mountains in the autumn when the heavy snows fall. On the other hand, they are great wanderers throughout their range in the Park, often making unexplained journeys on foot and by short flights, for miles, at all seasons, except when encumbered by young birds.

Their food consists largely of berries, such as bear berries (*Arctostaphylos uva-ursi* L.), huckleberries (*Vaccinium scorparium* Leiberg), high bush blueberries (*Vaccinium membranaceum* Dougl.), service-berries (*Amelanchier alnifolia* Nutt.), false buffalo berries (*Shepherdia canadensis* L.), raspberries (*Rubus strigosus* Michx.), gooseberries (*Ribes saxosum* Hook and *Ribes parvulum* Gray), and strawberries (*Fragaria americana* Porter). In addition they eat many insects, especially grasshoppers. When other food becomes scarce they eat fir, pine, and spruce needles. On July 26, 1921, while I was seated quietly at lunch, a mother grouse surrounded by her brood of seven half-grown young, walked past me. They moved along in open order with the mother in the middle; at times a chick would stop to eat a raspberry, or to catch a small grasshopper, and then run hard to catch up with the rest. I do not find the Richardson's Grouse to

be as fond of dust baths as the Ruffed Grouse are. Occasionally they resort to the roads for dust and gravel, but not often. On the other hand, *richardsoni* likes to take sun baths.

These birds have a peculiar booming call, often heard in the spring. When the air is still, or early in the morning, this sound may carry quite a distance. Richardson's Grouse has no ruff, but it does have a naked sac on each side of the neck that is extended and displayed during the courting. Courting is done in April by the male birds, and at such times they seem absolutely indifferent to danger and allow me to approach very closely. A courting male spreads his dark tail in a big fan at right angles with, and over, his back; he droops his wings until they trail on the ground; he swells out the naked orange-red gular sacs in the center of, and vividly contrasted with large rosettes of white feathers reversed on the sides of his neck; his head is drawn back until the neck seems to disappear entirely; and two small brilliant yellow sacs, one over each eye, are expanded to their fullest extent. In this posture, the male struts and parades in circles; he nods his head jerkily up and down half a dozen times; then runs quickly four or five steps to one side or the other, with his head and neck held stiffly out near the ground. None of the birds I saw doing this, uttered a sound *at the time*. After such a display, the male bird continues strutting and parading, but with gradually diminishing force and energy. These displays take place with the bird on the ground, or on low rocky platforms. Sometimes these ceremonies are in the immediate presence of the females, and sometimes actually out of sight, although a female is almost always in the neighborhood.

Nesting takes place in May, and the nests are usually placed at the foot of forest trees at any altitude from 6300 to 8000 feet, and perhaps even above the last named height. The Richardson's nests are shallow depressions lined with grass, pine needles and leaves, and contain from seven to ten creamy eggs speckled and blotched with brown. Fresh eggs are laid from May 10 until almost the first of July in belated cases. The little chicks hatch from June 15 to July 15, and can run about quite nimbly as soon as they are out of the shell. These youngsters are astonishingly expert at hiding, and they can fly when very small; but for unknown reasons and even after making allowance for all known enemies, the mortality of young grouse is unusually high in the Yellowstone. Yet, their mothers take good care of them, although the fathers pay no attention whatever to their families. I remember watching one brood in late June beside a main road. The mother grouse permitted autos to dash by within a

few feet, but when she finally moved off, she did so very alertly. So solicitous was she, that she did not feed, but spent all her time watching and guarding her brood of eight chicks that were less than a week old. These tiny balls of down were very quick and darted here and there over the stony ground, and in and out amid the sage and tufts of grass.

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Jamestown, New York.

WHERE DO BIRDS SPEND THE NIGHT?

BY LAURENCE M. HUEY

The interrogative form of the above title is intentional. Certainly the writer would not undertake to answer the question, and probably there are but few ornithologists who could state with certainty where many kinds of birds spend the night. To be sure, there are published references to such sleeping haunts as the chosen "roosts" of crows, the chimneys into which migrating swifts pour at sundown, the marshes where hordes of tree swallows congregate when the day is closing, and similar conspicuous night retreats of certain birds. But the individual small birds—where are their sleeping places? This is a question that naturally arises in the mind, when, for instance, one sees the same individual song sparrow on the feeding table morning after morning, but not no clue as to where it has been hiding during the hours of darkness. It must have been in some safe place, for danger stalks our feathered friends by night as well as by day, a danger that has been intensified through the man-caused introduction of the house cat, with its consequences beyond control.

This problem of all diurnal birds, during the period when they are mentally inactive or, if awakened, cannot see to escape, has been a subject of especial interest to the writer. During fifteen years of field work he has kept particular watch for the roosting places of birds, yet few have been the opportunities to find birds asleep. Perhaps some of his observations, all made in the far southwest, when added to what others have written, may throw a little more light on this little-known subject.

For some birds the answer is easy. We know that woodpeckers sleep in their holes in trees or large cactuses—not of their own construction, perhaps, but woodpecker holes, nevertheless. Migrating flickers resort at times to old buildings, where they chisel holes through the walls beneath the eaves and get into the attics. On the western deserts, Verdins and Cactus Wrens keep their nests in repair, that they may there spend their nights in comfort and out of sight or reach of their nocturnal enemies, whether fox or owl.

The quail of California roost in trees, where they can find safety amid a dense cluster of twigs—sometimes several birds in close company, if the weather is cold. But quail once offered the writer a problem when he was collecting in the treeless region of central Lower California, Mexico, and found these birds fairly swarming. Coyotes and other carnivores were abundant, horned owls were present, yet

quail thrived. Where could they spend the night in safety? For days the writer pondered and suddenly the answer was found. The cactus with its myriads of needle-like spines kept guard over the quail during the night. Nor did they perch on the branches—the thorns would not permit—but, by resting on the ground in dense cactus thickets, they were safe from all harm. In one place, an area at least ten feet square, near the center of a large patch of cactus, was used as a roosting place by a large covey of quail and here fecal matter to the depth of four inches had been deposited. Thus was explained the fact that, in numerous cactus thickets, the entire center was found to be dead, dying, or entirely missing—the result of too much manure. now decayed and indiscernible, for the growth to withstand.

Once, when the writer was encamped in an oak-filled canyon near Escondido, San Diego County, California, for several weeks during the late fall, a Plain Titmouse came nightly to roost in an oak tree, within a few feet of the tent's door. The perch selected, which was the same every night, was a small twig less than six inches in length that grew directly beneath and paralleled a huge horizontal limb at least sixteen inches in diameter. This twig held a dozen luxuriant leaves and formed both a screen and a wind-break for the sleeping bird. So fixed was the titmouse's choice of this particular roost that the presence of chattering humans with a bright light and campfire mattered not at all.

Recently the writer spent a fortnight about ten miles southeast of Alamo, in the mountains of northern Lower California, Mexico. His camp was established near an old adobe ruin, where, after a few days, a Say's Phoebe was noticed early in the morning and again at sunset, with precise regularity. This occasioned some speculation, and not until it was discovered that the bird had a chosen roosting site nearby, were its actions explained. It happened that the adobe house still retained a partial roof and the writer, having numerous skins and skulls of large animals in the course of drying, had improvised a rack under the shelter of the roof. On the evening when the phoebe's secret was discovered, an inspection tour was made about 10:30 to see to the safety of the specimens. Before entering the doorless doorway of the old building, a chance glance upward revealed, almost directly over the doorway, an old nest of a Black Phoebe and, protruding from the edge of the nest was a bird's tail. A closer look showed the preemptor to be none other than the regular-twice-daily-occurring Say's Phoebe. Blinded by the light, the bird did not flush, but tried to crouch more closely into the cup of the nest.

Every night thereafter the phoebe was looked for and always found. On two occasions, when the weather had turned decidedly cooler, the bird resorted to a niche in the wall a few inches above the nest; otherwise it was always in its favorite spot. Its habit of shyness when evening came was interesting; for the phoebe would never venture near the roost if any moving thing, whether horse or man, were visible within a hundred feet.

It is customary to think of protective coloration as applying only during daylight hours. Such, however, is not the case, for on occasions too numerous to recall the writer has attempted to find wild birds on their roosts by the aid of bright electric torches or gasoline lanterns, but never with success. This has been in spite of unusual opportunities for such a search, occasioned by the necessary inspection at night of long lines of mouse-traps set in the varying conditions of mountain, marsh and desert. And so the question of where birds spend the night will continue to run, answered only bit by bit, although each new answer will be interwoven with some tale of interest.

San Diego Society of Natural History,
San Diego, California.

NOTES ON THE RAILS

BY E. D. NAUMAN

These most peculiar and shy birds are so rare in this part of the state (Sigourney, Iowa), that during a period of fifteen years of careful observation of all our birds, only eight individuals belonging to four species of rails have come under my observation. So far as I know none of them breed here. If they do, I have never been fortunate enough to discover a nest.

The larger marshes and ponds in this vicinity have mostly been drained long ago and converted into cultivated fields. Consequently few nesting sites suitable for rails remain. Migratory birds as a rule return each summer to the locality where they were reared. It is also a fact that the life of most of our smaller birds is rather short. These facts account for the great scarcity or total absence of birds from localities where their nesting sites have all been destroyed.

Following is a list of the rails which it has been my opportunity to observe and an account of the circumstances under which they were seen.

On May 5, 1914, I was walking through a damp and marshy meadow when one of the little Black Rails raised up in front of my

feet, flew ahead a short distance then dropped into the grass again, and although I hunted and beat the grass about this spot for some time I was unable to flush or see it again.

On May 9, 1918, I found the dead body of a Sora Rail on the pavement directly under the line of some twenty-five electric wires, on one of our city streets. There had been a heavy wind, rain, and thunder storm the night before and this bird had no doubt become bewildered in flight, bumped into these wires and killed itself. On the 16th of the same month I saw another Sora daintily running along the edge of a small pond and disappearing in the grass.

On June 1, 1920, I saw a Virginia Rail running along the roadside near a small marsh and disappearing in the grass and weeds. Owing to the lateness of the date and the proximity of the marsh, this may have been one of a nesting pair, but I was unable to locate a nest or again to see the bird.

On April 16, 1921, we had one of those erratic Iowa snow storms which dressed the earth in a coat of white to a depth of about eight inches. We have a farm residence located about sixty rods from the river near here. At the date of which I write my daughter and her family were residing upon this farm. On arising in the early morning of the 17th and looking out of the window she beheld not only the great expanse of white, but to her great surprise a fine specimen of the King Rail which was walking about on the porch floor picking up a few stray crumbs and anything else that might help to sustain life for a cold and exceedingly hungry rail. The poor bird had no doubt been flying in the icy air until its wings refused to carry it any further and seeing this porch floor free from snow, it alighted there and began as best it could to satisfy its hunger.

On being disturbed of course it flew away, but my daughter supposing it would soon be back scattered some food on the floor. She was not disappointed for in a short time the bird was back and by the way it devoured the food it showed plainly that it was nearly starved. It also came back a number of times later to obtain a "hand out" at that back porch, until the snow went away so it could find food more to a rail's taste, after which it was not seen again. How the rails that did not find food and shelter during those awful days may have fared is not a pleasant matter to contemplate.

On April 14, 1921, and again on May 20, 1925, I saw single individual Soras. Both of these were feeding at the water's edge of West Creek. I watched the latter for fifteen minutes at close range. Part of the time it attempted to hide among the weeds or under drift wood,

but though I approached within ten feet it did not fly. After eyeing me curiously for a few minutes it went on hunting for food again.

On October 1, 1925, while walking over a blue grass pasture, I came to a ditch or washout ten feet or more in depth. Chunks of sod had slid down the sides of this ditch more or less of the way so as to give it a terraced appearance. In crossing this ditch I was stepping and hopping from one of these sod patches to the other when suddenly one of the little Black Rails flew from under my very feet. It dropped down again just as suddenly about fifteen feet from me and attempted to hide about one of those grass patches. I approached cautiously to get a good view, but since it met with little success in hiding, it soon flew out of the ditch and disappeared.

SIGOURNEY, IOWA.

AUXILIARY GUN BARRELS FOR COLLECTING BIRD SPECIMENS

BY W. G. F.

As time elapses and the older generation of ornithologists and collectors of bird specimens pass on, or become inactive, it happens that many of the younger men taking their places in the ranks of bird students are but little acquainted with the art of preparing scientific skins or the proper equipment for shooting the birds.

The writer in his later years having recognized the importance of, occasionally at least, collecting and preserving specimens of birds has experimented with a variety of gun calibers, different barrel lengths and especially, various types of small caliber auxiliary barrels. Therefore in the present paper it is proposed to describe and discuss some simple and easily made types of auxiliary barrels suited for use in 12-16-20-, or even smaller, gage shot guns, together with suitable ammunition therefor.

By the use of such small caliber barrels or bushings temporarily inserted in the chambers of ordinary shot guns, small birds may be collected at distances of twenty to sixty feet without mutilation. Less noise is made and particularly the bulk, weight, and cost of the ammunition are less. Lessened weight and bulk are important when one goes into the field prepared to shoot anything from hummers to eagles! The writer believes in "preparedness" although he never has shot either a hummer or an eagle.

After experimenting with guns shooting shot shells, from smooth bore .22s and .32s to a 12-gage long range gun chambering 3 inch shells I recommend for ordinary collecting purposes, a 16-gage, 28 inch or

30 inch double-barrel shot gun (left barrel full choke) fitted with 410 bushing for each barrel. But I still carry with me on extended collecting trips the 12-gage, long range gun for occasional use.

With those who prefer the 20-gauge double gun and can shoot closely enough to warrant its use for wing shots I have no argument. I do not favor a 410 double gun for general use, but it has its place in the jungle for small birds.

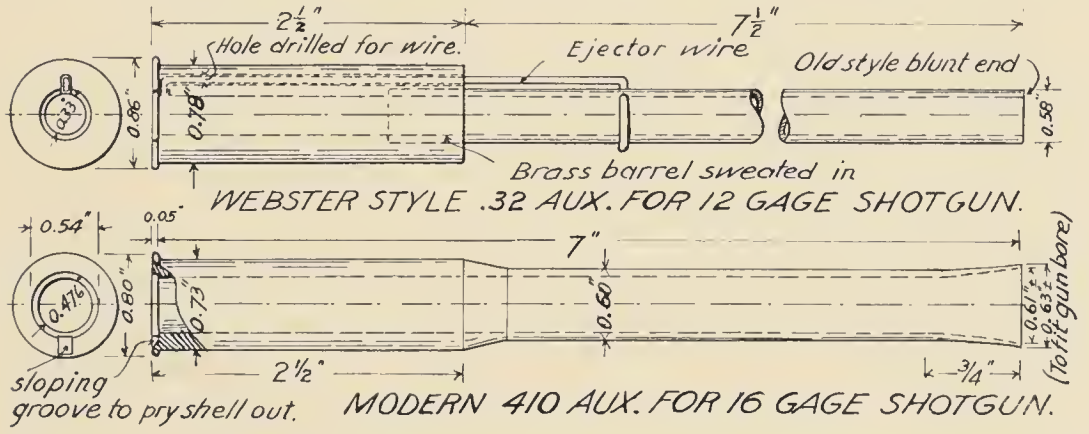
The Harrington and Richardson Arms Company, of Worcester, Mass., make a serviceable smooth bore, single shot 410 pistol in both 8 inch and 12¼ inch barrels. The latter makes much the better pattern and less noise. Such a gun is useful sometimes as a hand collecting gun when a double-barreled gun would not be carried. The 12¼ inch gun will get the smaller birds up to forty feet or so. This gun is 17½ inches over all and weighs 2 lbs. 10 oz. If it tends to shoot over, due to recoil with the heavier loads, use both hands.

The auxiliary barrels or bushings used in 12-, or 16-gage shot guns by our earlier collectors were mostly .32 caliber, using reloadable brass shells. This caliber is fine for small birds at distances of fifteen to perhaps thirty feet. It permits shooting from a shorter distance than with the 410. The 410 (12 mm.) shot shell used in a short auxiliary barrel is suitable for distances of twenty to forty-five feet using shells 2 inches long, or up to about sixty feet using shells 2½ inches long. A 410 gun will chamber .44 caliber ammunition. The diameter of the 410 shells is about .466 inch, and of the .44 caliber, about .463 inch.

For hummingbirds dust shot is suitable, but for warblers, small sparrows, and others within this size limit the best shot is No. 12 chilled. The great number of pellets in a load of dust shot is likely to riddle a bird and cause too great a loss of feathers. For the larger sparrows use No. 10 shot; for blackbirds and grackles use No. 9 shot. In general, use as small a load of as fine shot as will reach the bird and at the same time give a pattern dense enough to put several pellets into the bird.

The 410 loaded paper shot shells now are carried in stock in most ammunition stores, but usually nothing smaller than No. 7½ shot, although No. 9 is a standard catalog load. Until this year No. 10 was a cataloged load. Numbers 10 and 12 shot will be loaded on special order, in lots of 500 shells. The 410 No. 7½ is very useful for dispatching wounded hawks and other large birds and for shooting large birds close by, as often must be done in dense bush or jungle.

The loading of one's own 410 ammunition is a simple matter, requiring no special equipment except such as easily can be made at home in two hours time. Usually it is best to purchase the unloaded paper shells already primed. After some experimenting with black powder, which still is the choice of some old collectors, I favor a good grade of smokeless, as the grains are finer and more uniform in size—both important items in small loads. I follow the old rule of equal bulk of powder and shot, as this gives a better short distance collecting load. Too high velocity is more likely to injure the specimen. Place a cardboard wad on top of the powder also one felt wad in the 2 inch shells and two felts in the 2½ inch shells. Do not ram hard enough to distort the shells; however, if the shells are a bit swelled after loading, a bit of rolling between two hard smooth surfaces will remedy this. The closing or crimping may be done easily and neatly without



a special tool by twirling the loaded shell, open end down on a piece of polished hard wood or metal; starting with the shell axis at an angle of 45° with the surface and ending vertically. This is very quickly done. Leave one-eighth inch or a little more above the top cardboard wad for this crimping. It is well to have different colored cartridges for different loads or to mark shot size plainly with ink on side of shell, as the above described method of closing prevents marking shot size on the top wad.

Having described the advantages of the small caliber bushing and discussed the ammunition for it, we now come to the article itself.

As commonly made for either .32 caliber or 410 sizes, for use with modern so-called slow or progressive burning powder, the auxiliary barrel should be as long as one feels he can conveniently carry in his pocket. For practical purposes, 10 inches is long enough, while 7 inches or 8 inches will be less troublesome to carry. In the shorter lengths especially, when using modern powders, there results some incompletely burned gases in the barrel of the gun at the muzzle of the

auxiliary, which gases cause corrosion of the gun barrel. The priming cap now in use with the smokeless powders also causes corrosion. The corrosion is mostly within two or three inches from the muzzle of the aux. This corrosion may be much reduced by using an 8 inch or 9 inch aux having a bell-mouth in the last three-quarters inch as shown in the drawing. Such a bell-mouth fitted rather closely to the bore of the gun prevents an eddy of unburned gases as will occur with a blunt ended aux smaller than the gun bore. No doubt the use of this bell-mouth improves the pattern. Its use was suggested by the writer's experience in hydraulics.

The material of the aux should preferably be brass, as corrosion is then negligible. The clearance of the aux in the gun barrel should be sufficient for it to slip in and out easily and the same is true of its bore, so that no ejector will be needed for the small shells.

At the breech of the 410 aux shown, there is indicated a square section slanting groove, in which to use a knife point or some other narrow tool to pry out a shell that tends to stick. Some aux users carry a little rammer to drive out any troublesome shell. Once in a long time I have had to cut such a rammer from a bush.

Some of the .32 caliber auxiliaries were provided with a wire ejector placed in a hole drilled longitudinally through the side wall of the rear enlarged part of the aux. There is hardly enough thickness of side wall of a 410 aux even for 12-gage gun to safely permit such an ejector, but it is not needed if the bore is made sufficient. The cost recently, of such auxiliary barrels of brass 7 inches long made to order one at a time in a jobbing machine shop has been $5.25 each.

The advantage of having two auxiliary barrels is just the same as that of a double-barreled gun over a single. Commonly I carry a 16-gage hawk load in the left (choked) barrel and one aux in the right barrel, with the second aux with a different load in coat pocket, ready to change into either barrel. A narrow pocket sewed on the inside of the coat is a handy way to carry the aux. When a short bell-mouthed aux is carried loosely in a side pocket with small shells it sometimes picks up a reversed shell in the bell-mouth. While such a loose plug might not split a barrel, I prefer not to experiment with it.

As the bore of shot guns of same gage varies so greatly at different distances forward of the shell chamber, it is best to take the gun barrel to the shop where the aux is to be made. The bore of the choked barrel of a gun is commonly larger than the cylinder barrel at a distance of 7 inches or 8 inches from the breech.

Jackson, Mich.

NOTES ON THE OCCURRENCE OF SHORE BIRDS AND WATERFOWL ON A NEW ARTIFICIAL LAKE[1]

BY SAMUEL EDDY

Lake Decatur is an artificial body of water created in 1922 by damming the Sangamon River at Decatur, Illinois. The lake is about twelve miles long and averages over one-half mile in width. The upper end of the lake is quite shallow with extensive swampy shores. Large areas are covered by marshy islands covered with a rank growth of vegetation. The lower end of the lake skirting the edge of the city is quite deep, ranging from twelve to fifteen feet in depth. From this region several shallow inlets formed by old creek valleys radiate away from the city. The largest of these is the Big Creek inlet which extends for several miles, ending in a swamp which duplicates the conditions of the upper lake on a smaller scale.

The former Sangamon River on the outskirts of the city of Decatur was a small turbid stream typical of central Illinois. Lined with willows, bottomland forest, and corn fields, the only waterbirds common to it were the little Green Heron and the Kingfisher. During the spring floods an occasional flock of Mallards, Blue-winged Teal, or a few Coots and Pied-billed Grebes rested on the backwaters. Other waterbirds were rare visitors and seldom seen. The former rare birds and others which were never seen before appeared in great abundance on the new lake. During fifteen years of observation, which the writer has made on the river and lake, only one bird appears on the list which has not been observed on the lake or nearby. This was the Loon noted on one occasion in 1915.[2]

With the formation of the lake the bird population changed rapidly. The gates of the lake were temporarily closed in the fall of 1922, and almost immediately migratory Redheads, Canvas-backs, Mallards, and Lesser Scaup Ducks appeared by the thousands on the waters of the half filled lake. Although the summer cottages and city homes have rapidly appeared about the shores of the lower lake, the remarkable thing is that the migratory waterfowl continue to swarm there. On one occasion the writer noted forty-eight Coots feeding on the grass of a lawn within the city limits. No shooting is allowed on the lower lake which probably accounts for the greater abundance of the waterbirds closer to the city.

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[1]Contributions from the Zoological Laboratory of the University of Illinois under the direction of Henry B. Ward. No. 301.

[2]Since writing this paper, five Loons were observed on the lower lake, October 30, 1926.

More breeding areas have greatly increased the number of breeding birds. This large area of water has proved to be a favorite resting place for many migratory species. Ducks, geese, and herons have shown a great increase both in numbers and in species. Shorebirds were never rare in the old bottom lands during migratory season and now they are much more abundant in the swamps and marshes at the head of the lake and the nearby inlets.

The rails are apparently about as numerous as they were in the old river bottoms considering the more abundant area suitable to them at present. The King Rails and Soras have often been noted in the marshes about the lake. However, owing to the difficulty of observing them, not much information is available concerning them. The American Bittern does not seem to be as abundant on the lake as on the river. This may, however, be due to the more inaccessible places now available to the Bittern. The same seems to be true of the Least Bittern.

This bird, probably owing to its small size and to its shy disposition, has always seemed rare. The herons have shown a very noticeable increase with the creation of the lake. Several American Egrets[3] were noted on the upper lake during the summer of 1925. The Black-crowned Night Heron was rather uncommon on the old river. Now it is very abundant on the lake throughout the breeding season. The Great Blue Heron was only occasionally observed on the river. It is very common about all the shores of the lake. The Green Heron was always very common on the river. It is just about as common on the lake, being more confined, however, to the inlets.

Pied-billed Grebe. *Podilymbus podiceps.* This bird was always fairly abundant during migratory season on the river, especially on the backwaters. It has always been abundant in the spring and fall on the shore waters of the lake.

Loon. *Gavia immer.* Not yet observed on the lake, although it probably will occur. One bird of this species was secured on the river in 1915.

Kittiwake. *Rissa tridactyla.* Several of these birds were observed on the lower lake during a severe cold spell in December, 1923. This was the only occasion that they have been identified.

Herring Gull. *Larus argentatus.* Very common on the lake in the spring and fall and throughout most of the winter. Not known to breed here. Never observed on the old river.

[3]During the month of August, 1926, Egrets were abundant on all shores of the lake. Groups of ten or twelve were a common occurrence. At this time, a single Snowy Egret was reported from the upper lake.

Ring-billed Gull. *Larus delawarensis.* Never observed on the spring and late fall of 1924, 1925, and 1926. Never observed on the river. This bird was quite abundant on the lower lake in the early river.

Bonaparte's Gull. *Larus philadelphia.* Several of these birds were identified on the lower lake on May 1, 1926. This is the only time that it has ever been observed in this locality.

Forster's Tern. *Sterna forsteri.* Never observed on the river or lake until May 1, 1926. Quite abundant on the upper lake on this date.

Common Tern. *Sterna hirundo.* Several of this species were observed on the lower lake in the spring of 1924 and 1925. Never observed before.

Least Tern. *Sterna antillarum.* Several of this species were identified on the lower lake, May 31, 1925. Never observed on the river.

Black Tern. *Clidonias nigra surinamensis.* Never noted on the river. This bird has been quite common on the lake during the summers of 1923, 1924, 1925, and was observed in May, 1926.

Double-crested Cormorant. *Phalacrocorax auritus auritus.* Never noted on the former river but very common on the lower lake during the migratory season in 1924, 1925, and 1926.

Merganser. *Mergus americanus.* Very abundant on the lower lake throughout the winter of 1925-26. Often flocks of several hundred lined the edges of the ice about the open water. These birds left about April 5, 1926. They had not been observed prior to the spring of 1925.

Red-breasted Merganser. *Mergus serrator.* Several small flocks were observed in April, 1926, on the Big Creek Inlet. This is the only time this bird has been observed in this locality.

Hooded Merganser. *Lophodytes cucullatus.* Two pairs were observed feeding in company with Mallards and Pintails in the swamp at the head of the Big Creek Inlet, April 5, 1926. Never observed before.

Mallard. *Anas platyrhynchos.* Quite common on the former river during migratory season. Very abundant on the lower lake during migration. Flocks of several hundred are a common sight. Abundant in 1926 from January 24 until April 11. A few Mallards breed in the swampy areas.

Black Duck. *Anas rubripes.* Abundant in the spring migration of 1926, from January 31 to April 4. Not observed before.

Baldpate. *Mareca americana.* Abundant on the lower lake in company with Pintails during the migration 1925-26. Never common before.

Green-winged Teal. *Nettion carolinense.* Common in the migratory season in the inlets. Very abundant in April, 1926, in the swamps at the head of the Big Creek Inlet. Rarely observed on the former river.

Blue-winged Teal. *Querquedula discors.* Very abundant in the marshes at the heads of the inlets during migration. Rather common but never as abundant on the sloughs and backwaters of the old river.

Shoveller. *Spatula clypeata.* Common in migratory season in the swamps and along the shores of the lake. Rather a late arrival. Never very abundant before the formation of the lake.

Pintail. *Dafila acuta tzitzihoa.* This bird was very abundant in March and April of 1926, resting on the open waters and feeding in the inlets of the lower lake. It was not abundant until 1926.

Wood Duck. *Aix sponsa.* This bird was not observed by the writer but several flocks were reported by a competent observer in the fall of 1926 as feeding and roosting in an oak grove at the upper end of the lake. Never observed or reported before.

Redhead. *Marila americana.* Abundant on the open and shore waters of the lower lake in both spring and fall migrations. Often observed in flocks of more than a hundred. Small flocks of these birds were formerly found only on the larger sloughs of the old river during migratory season.

Canvas-back. *Marila valisineria.* This bird seems to have the same distribution and abundance as that of the Redhead. Owing to the close resemblance to this species, identification was not always satisfactory.

Scaup Duck. *Marila marila.* Very abundant on the open waters of the lower lake during migration. Rarely seen on the river.

Lesser Scaup Duck. *Marila affinis.* Very abundant on the lake during migration. This is one of the last ducks to leave in the spring. Not uncommon on the former river but much more abundant on the open waters of the lake.

Ring-necked Duck. *Marila collaris.* Only one pair observed on the Big Creek Inlet, April 5, 1926. Not observed before.

Buffle-head. *Charitonetta albeola.* Several observed in February, 1926, on the lower lake. Never observed before.

Harlequin Duck. *Histrionicus histrionicus.* One pair reported on the Big Creek Inlet by a competent observer April 4, 1926. This is the only local record for this bird.

Ruddy Duck. *Erismatura jamaicensis.* This bird is never very abundant although there have always been a few on the lower lake during migration. Generally a late arrival about the first of April. Not observed on the former river.

White-fronted Goose. *Anser albifrons gambeli.* Never observed on the river. Only observed once on the lake, April 5, 1926, when a flock of forty-eight were observed feeding at the head of the Big Creek Inlet.

Canada Goose. *Branta canadensis canadensis.* This bird was rarely found on the former river. It is quite abundant on the lower lake during migration. During the winter of 1925-1926 a few remained around the open water until spring.

American Coot. *Fulica americana.* Although this bird was never rare during migration on the river, it is much more abundant at that season on the lake. Flocks of several hundred feeding on the grass of nearby pasture lands are a common sight.

American Woodcock. *Rubicola minor.* Observed on several occasions during migratory season in the former river bottoms. Not observed on the lake marshes but probably occurs rarely as it was noted several miles from the lake in May, 1926.

Wilson's Snipe. *Gallinago delicata.* Occasional in the wet areas of the river bottoms during migration. Observed in large numbers in May, 1926, on the marshes of the upper lake.

Pectoral Sandpiper. *Pisobia maculata.* This bird was observed on the Big Creek Inlet, May 10, 1925. Very rare on the former river.

Least Sandpiper. *Pisobia minutilla.* Observed in small flocks in May, 1925, on the Big Creek Inlet and in May, 1926, on the upper lake. Not observed before although it undoubtedly occurred.

Sanderling. *Calidris leucophaea arenaria.* Not observed until May 17, 1926, in the marshes of the upper lake.

Greater Yellow-legs. *Totanus melanoleucus.* This bird was an occasional migrant on the river. Now it is very abundant during migration on the marshes of the upper lake.

Yellow-legs. *Totanus flavipes.* Never as abundant at *T. melanoleucus.* Occasional on the river. Observed in May, 1925, at the head of the Big Creek Inlet. Only occasional in the more remote marshy regions of the lake.

Solitary Sandpiper. *Tringa s. solitaria.* Always common during migration on the banks of the river. Abundant on the marshy shores of the lake especially in the spring.

Upland Plover. *Bartramia longicauda.* Not observed on the former river or on the present lake shore but it was occasionally found on the nearby uplands.

Spotted Sandpiper. *Actitis macularia.* This bird was always very common along the banks of the river throughout the breeding season. It is very common about the lake especially in the inlets and marshes.

American Black-bellied Plover. *Squatarola s. cynosurae.* Not observed on the former river but noted on the lake May 24, 1925.

Golden Plover. *Pluvialis d. dominica.* Rather rare in the wet areas of the former bottom lands. Observed May 10, 1925, on the Big Creek Inlet and in great abundance on the upper lake on May 1, 1926.

Killdeer. *Oxyechus vociferus.* Not limited to any extent in the immediate vicinity of the lake. This bird has always been common throughout the surrounding uplands of both lake and river.

Semipalmated Plover. *Aegialitis semipalmata.* Not observed on the former river but quite common on the shores of the lake in May, 1925 and 1926.

Urbana, Illinois.

A BRIEF STUDY OF CANADIAN LIFE ZONE BIRDS IN HIGHLAND COUNTY, VIRGINIA

BY JOHN B. LEWIS

For a number of years my son, M. G. Lewis, of Lexington, Virginia, and myself had planned to go to Highland County in the nesting season, for the purpose of studying the birds of the Canadian Fauna, which reaches a long finger down the back-bone of the mountains; but not until last June were we able to realize our dream, and then for only two days, which is too short a time to do anything like justice to the work.

We motored from Lexington to Staunton, and then turning northwest, drove into Highland County, over a fairly good road and through scenery of ever-increasing beauty and grandeur. We crossed ridge after ridge, each a few hundred feet higher than the last. As the altitude increased the hemlock, white pine, butternut, and white birch began to appear in the landscape; and numerous wild flowers new to us, including the rhododendron and flame-colored azalea, were seen on the mountain-sides.

At sunset we camped near the highest point reached by the road in crossing the gap in the mountains, before beginning the descent into the valley of Jackson River, in which is located the village of Monterey. This was not far from the head of Crab Run, and for convenience we will call it Crab Camp. According to the Geological Survey map the altitude of our camp was about 3,400 feet, while the top of the ridge, which we climbed the next morning, was around 300 feet higher.

We were out at 4:00 A. M. the next morning, June 9, and climbed the mountain on the south of the gap. The mountains have a strong limestone soil, and where not too rocky, are cleared and grazed. After spending four hours on this mountain, we drove down the three or four miles of descent into Monterey, purchased some food, and then went down Jackson River and up Back Creek, looking for birds and enjoying the scenery.

We then began the ascent of the highest mountain in that section of the State, which is known as Sounding Knob, and which rises to a height of 4,400 feet. It is cleared and blue grass covers about half of its surface, including the entire top. We drove the Ford as far up as the rough trail would permit and made camp. That afternoon we went on to the top on foot, a distance of about three miles horizontally, and close to 1,000 feet vertically.

On the morning of the 10th. we were out again at daylight, and worked until 10:00 A. M., when we had to start on the return trip. I give below a list of the birds observed by us, which are found only at high altitudes in this latitude. Due to the short time we were at work, we doubtless failed to find many that are present.

Yellow-bellied Sapsucker. *Sphyrapicus varius.* A pair was found feeding young in a nest in the dead top of a Chestnut tree well up on Sounding Knob. The nest tree was in the edge of woods on the upper border of a pasture. The nest hole was thirty-five feet up.

Northern Raven. *Corvus corax principalis.* Three were seen flying over Sounding Knob, being distinguished from the Crow by their much larger size.

Carolina Junco. *Junco hyemalis carolinensis.* One of the most abundant nesting species at 3,000 feet and above, frequenting bushy pastures and borders of woods. Two pairs feeding young were found on top of Sounding Knob.

Cedar Waxwing. *Bombycilla cedrorum.* I give the following observations for what they are worth, as they may not mean that the cedarbird was nesting in that locality. Just before dark on the eve-

ning of the 8th, four cedarbirds circled about over Crab Camp for a few minutes and then flew to the wooded mountain side above us. At about 8:00 o'clock the next morning four birds, probably the same ones, came from the same locality and went through with the same performance, returning as before to the woods higher up. We had not time to make anything like a careful search for nests.

Golden-winged Warbler. *Vermivora chrysoptera.* Found in scattered trees in pasture above Crab Camp. It is slow in its movements and keeps much to the tree tops. Constantly repeats its *Z-e-e-e De-de-de* song. Its actions indicated that it was breeding, though we found no nest.

Cairns's Warbler. *Dendroica cerulescens cairnsi.* Found in heavy timber, high up the side of Sounding Knob at an elevation of around 4,000 feet. It is very active and keeps to the tree tops. It is also very elusive, often flying several hundred yards when approached. The song is quite different from that of the typical Black-throated Blue Warbler. My description of it written in the field is: *Chick-chick-chick-e-e-e-e-e-e*, the concluding thrill being a tone and a half higher than the three first notes.

Magnolia Warbler. *Dendroica magnolia.* On the morning of the 10th, shortly before we had to leave, a warbler new to us began singing from the tall oaks around our camp half way up Sounding Knob. We began looking for it with our glasses, and I took down its song in musical notation. M. G. got one good look at it and pronounced it a Magnolia Warbler. Before I got my glass on it, it left, and we heard it no more. The song which I recorded agrees very closely with one of the songs of the Magnolia described by Chapman in the "Warblers of North America."

Chestnut-sided Warbler. *Dendroica pensylvanica.* Fairly common both at Crab Camp and Sounding Knob. The first one we saw was in a brier thicket on the roadside at an elevation of about 3,000 feet. Those found later were mostly in the low growth in woods. One pair was observed feeding young out of the nest.

Black-throated Green Warbler. *Dendroica virens.* Heard singing in the heavy timber both at Crab Camp and on Sounding Knob.

Hermit Thrush. *Hylocichla guttata.* One of the northern thrushes was heard singing in a ravine above Crab Camp, which was probably of this species, though we did not get to see it.

While it is not a northern species, it may be of interest to state that a Bewick's Wren was seen and heard at Crab Camp.

Lawrenceville, Virginia.

THE WILSON BULLETIN

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EDITORIAL

An unusually large number of copies of the September BULLETIN were returned by the Postoffice Department, because the members had changed their addresses without notifying us of the new addresses. The postage due on a returned copy is six times the outgoing, seeond-elass rate. If the member later ealls for the returned eopy, postage must be affixed to earry it, unless it is held until the next general mailing.

To obviate much of this diffieulty we urge the members to notify us promptly of any permanent ehange of address; and this notifieation should reaeh us before the 15th of the month of publieation. We will always be glad to supply missing numbers to members, but if the member wishes to reeeive sueh missing number before the next general mailing, postage should be sent.

We advise members not to send in a change of address for the summer vacation, but the Editor will be very glad, upon request, to send any single number to a temporary address without ehanging the mailing list.

We have recently heard some discussion of "life lists." By a life list is meant a total list of birds with whieh the observer has made a field aequaintanee. This also implies that the list ineludes only species seen in the living state. Therefore, museum speeimens, game killed by hunters or found in the market, are excluded.

To make the pursuit of a life list possible and enjoyable there should be eertain rules of the game. It does not seem fair to take into aeeount subspeeies, sinee, in so many eases, subspeeies eannot be distinguished in the field; and also because subspeeies have been worked out more fully and minutely in eertain parts of the world. Subspecies are for laboratory study, rather than for field study.

A life list of 150-250 speeies may be expeeted by the loeal observer in most parts of the eountry. To run the list up to 300 or over most students would have to travel beyond the boundaries of their loeal regions; and the upper limit of the list would, doubtless, depend upon the amount and extent of such extra-limital study.

To what extent a long life list is profitable, and to what extent it is an index of ornithological erudition is, probably, a debatable subjeet, Whieh, for instanee, is preferable and more seholarly, a superfieial aequaintanee with a long list of species, or a more intensive knowledge of a smaller number? The student may take his choice, or must be limited by eircumstanees. Anyway, who has the longest life list?

GENERAL NOTES

Conducted by M. H. Swenk

A House Wren Despoils a Purple Martin Nest.—We have had quite a little argument regarding the destructive habits of the House Wren (*Troglodytes aedon*) and it has been pretty hard to believe some of the articles that we have read, but they say "seeing is believing," and at our house we are converted. We watched a wren enter the Purple Martin house and throw out an egg, in spite of our efforts to frighten it away, so that ends the wren houses at our place, although they have nested there for twenty years.—T. Ross Wallace, *Atlantic, Iowa.*

A House Wren Drives Away a Pair of Cardinals.—Our screened porch, covered with grape vines, affords a most habitable place for birds, and in the spring of 1925 we discovered a pair of Cardinals building a nest. I watched them from day to day until the nest was finished and the eggs were laid. A pair of House Wrens, however, occupied a nest in a neighbor's yard, and I often saw them flying about. One day while busy indoors I heard an unusual amount of scolding and chattering near the Cardinal's nest, and upon investigating found a House Wren in the Cardinal's nest with its bill in an egg. I immediately frightened the wren away and was determined to see the outcome of this heinous act. The unhappy Cardinal stayed on, until another time I again heard the same confusion and scolding. This time the incorrigible little wren had thrown the egg on the ground and was again occupying the nest. The Cardinals this time abandoned their home.

Last summer our vines were occupied by a family of Catbirds, but they finished their nesting season without any disturbance. However, we have done away with all the wren houses in our immediate neighborhood.—Mrs. C. G. Schmidt, *Elkader, Iowa.*

Observations on the House Wren in Virginia.—As there has been much discussion recently concerning the nest-robbing habits of the House Wren, the following observations may be of interest.

I have about my home a number of one-room bird houses of different sizes, suitable for House Wrens, Bluebirds, Crested Flycatchers and Flickers, and two Purple Martin houses, each with ten rooms of standard dimensions. Early in the season a pair of House Wrens built in a Crested Flycatcher house, and at once filled a Bluebird house about fifty yards away with sticks. They raised a brood in spite of two attacks from Black Snakes (*Coluber constrictor*), which, luckily, I saw in time to save the nestlings.

On July 27, they had a second brood in a gable room, in the east end of a Purple Martin house thirty yards from the house in which the first brood had been reared, and had filled one room on the north side of the house with sticks. That house had not been taken by Purple Martins this season. On this date I noticed that a pair of Bluebirds were nesting in a room on the south side of the same martin house, evidently having very young nestlings at that time, the young wrens being two-thirds grown. This situation was of great interest to me, as it is the first time I have known either species to nest in the same house with any other species, so I watched them quite closely, mornings and evenings, through the rest of their stay in the house.

Only twice did I see any signs of trouble between the two families, and in both cases the male Bluebird was the aggressor. He made a dash at one of the wrens, who at once took refuge in their nest, when the Bluebird went on about his business. On August 7, the young wrens had left the nest, but I cannot say just when they left, as I had been away for three days prior to that date. The young Bluebirds left the nest on August 12. As the wrens left the nest at least six days before the Bluebirds did, they probably began housekeeping a little the sooner, though a shorter incubation and feeding period might have made up that difference.

I am sorry that other demands on my time made it impossible for me to keep closer watch on these two families.—John B. Lewis, *Lawrenceville, Va.*

Watching the House Wrens.—The returning birds of two springs ago (1925) found our garden ready for their reception. Of attractive plants there were the Bush Honeysuckle, High-bush Cranberry, Russian Olive, Wild Gooseberry, Snow-berry, Barberry, Bittersweet vines, a grape arbor, three cherry trees, and an apple tree. There were a couple of feeding stations, a bird bath, Robin shelves, a Purple Martin house, and a Bluebird house. The advertisements read that you should have three House Wren houses for each pair, and for fear they would not understand my hospitality, I put up four of them. These, with the two on my neighbor's lot to the north, made six wren boxes within fifty feet. With the sparrow trap going full blast and the cat trap doing its duty all was set for the coming of my bird friends.

A pair of Bluebirds came first. They had some difficulty in deciding which house they would take—the green keg on the grape arbor, the three entrance house on the pole or the little brown cabin—but they finally selected the last named. The Purple Martins rented sixteen apartments in their house. About this time my attention was called to an article in the Wilson Bulletin, which urged that the placing of wren boxes be discontinued. Against this I protested, saying that I just couldn't turn against the wren. I had never seen so much song and energy concentrated in such a tiny mite. Then it was so busy attending to its business that I couldn't see when it could find time for any mischief. I intended to put out my wren houses and *watch*. Not a bad idea if one will *watch*. This I did.

When the birds arrived I began to watch the House Wren. Not much was seen. I found Robin's eggs punctured, the Catbird's nest destroyed with punctured eggs on the ground, but I really didn't see the wren do these things. I was still in love with him and was glad to feel something else must have happened.

The Bluebirds brought out two of their family. Their accustomed absence occurred and in due time the little family returned with the children pretty well grown. Mother selected this time the keg on the arbor. Father was too busy feeding the first family to help much in furnishing house number two. The House Wrens soon sent their family on its way and then decided on the cabin, which in the meantime had been cleaned and put up on the east end of the arbor. The Bluebirds didn't want the wrens for neighbors and one day there was a lot of trouble until about noon.

I went down town that afternoon and wasn't in the garden until the next morning. Then I settled myself on the bench under the apple tree to watch my happy family. The wrens were very busy with the cabin, but no Bluebirds about.

I waited and watched. The wrens seemed to be having everything fine, no interference whatever. I went close to the Bluebird box and on the ground directly under it was a punctured egg containing a well formed embryo. Three feet away lay another egg and the Bluebirds were *gone*. That dear little song of the wren turned to an unearthly clatter, the little mite of energy turned to a long-billed murderer quicker than it takes to tell it. I pulled all the wren houses down at once and barricaded the Bluebird houses. The following days I could hear the wren's "*yap*" in the distance, but it wasn't any too far to suit me.

Last spring the Bluebirds did not return, but House Wrens came and started to build in the neighbor's box north of my Purple Martin house and about ten feet from it. In desperation I put up a wren box in its old place in front and drew the wrens that far from the martin house. One time I saw a wren go to the Robin's nest and as I tried to frighten it away the mother Robin returned. She threw out a broken egg and flew to the ground for some dry leaves, evidently to cover the dampness left by the leaking egg. An English Sparrow had a nest under the eaves, to which the wren would dart the minute the sparrow left her nest. When this nest was torn down it held just one lone sparrow. The wren is undoubtedly economically helpful, and I can understand its attractions, but I for one am thoroughly convinced there is no garden big enough for it along with other species of birds.—Mrs. Arthur Lee, *Atlantic, Iowa.*

Notes on the Habits of the House Wren.—My observations of the habits of the House Wren, extending over many years, and in widely different places, confirm my early impressions of its destructive traits, in my opinion over-balancing in importance its economic value. For many other birds are economically important, too, but have no means to retaliate against so tiny, alert and persistent a foe, himself immune to the attacks of others.

Although during the five years we have occupied this ten-acre place, no wrens have been allowed to nest upon it, each summer shows a renewed influx of the young (supposedly) after the first broods are on the wing, and also older ones, probably seeking second nesting sites. During the first nesting period I am now practically free from them. This year, after the Bluebirds had taken off their first brood in the latter part of May, I trapped eighteen House Wrens, between that time and the Bluebirds' expected return, the first week in July. This gives some idea of their numbers, since nowhere in this vicinity of large places are there any wren boxes. Each time they came, they proceeded to fill the empty bird houses with sticks. Practically every day I cleared these unoccupied houses; but with all my vigilance, the Bluebirds, returning a day earlier than expected, found the fateful sticks in two of their homes. I knew only too well their cries of alarm and disapproval, and, although as soon as they had gone, I took out the sticks, and they returned to look over the premises once more, they did not remain, and I had no second nesting of Bluebirds. On the 27th of September, however, they came back with five young, and for over an hour, warbled and fluttered around their now empty boxes, with all the joyous ecstasy of springtime, so I now look forward to their homing flight, next February. On October 1, they were again at the favorite box, with one young bird.

Boy friends, who have been satisfied with Purple Martins for several years, have become deeply interested of late in attracting other birds. They put up a

Crested Flycatcher house this June and were delighted soon after to have a pair occupy it. I warned them to be on the lookout for wrens; but they said they thought there was no danger, as none were nesting in their yard or neighboring yards. They watched with the thrill of a new discovery, the building of the flycatcher's home, and the bringing and carrying in of the snake-skin, which just precedes the laying of the eggs. All was a novel sight to the boys, and the chatter and call of the male bird, "*What-what-what*," ending in notes humanly near to laughter, they enjoyed immensely. I did not see the boys for two or three weeks, then as I met them, I inquired about the flycatchers. "Oh," said one dejectedly, "a wren came along and tossed the eggs out. I was right there, and saw him do it and the flycatchers have gone." His eyes flashed: "And you bet there'll never be a wren around again if I can help it. I'm pretty good aim, and I shot this one. And I know now what broke the eggs and tore up the nest twice, when some Bewick's Wrens built in one of the martin houses—it was just a wren. We laid it to the English Sparrows, but wrens are worse than sparrows—the're just bullies, but wrens are murderers."

If the balance in Nature had not been destroyed, and valuable birds had not so alarmingly decreased, they might still hold their own against their enemies, but as matters are now, it is nothing less than cruelty to encourage and protect the House Wren.—Eliza Dana Weigle, *Lafayette, Ind.*

Some Observations Made in Florida and Enroute to Iowa.—While in Florida in the spring and early summer of 1926, opportunity was afforded for only one long bird trip and a few short ones, but in spite of that we saw more American Egrets than we did in the same locality three years before. We also saw two Snowy Herons in flight one day, and the first pair of wild Wood Ducks of our experience. The most interesting sight, though, was a flock of about 200 White Ibis. A neighbor said that he believed that there were about 400 in the flock when he saw it.

While driving from Florida to Cedar Rapids, Iowa, later in the same summer I started to keep a record of the birds that I saw lying dead on the road, but the coat in the pocket of which I carried my note book was lost out of the car, so that nearly all my Florida records were lost, along with some other data. I recall, however, that dead birds were rare along the highway until we reached Illinois, when they became appallingly frequent, Red-headed Woodpeckers predominating and Flickers second in numbers. A Barred Owl, a Green Heron, and an American Bittern are three that I remember from Florida; there were perhaps as many more

Another thing which interested me on the trip from Florida to Iowa was the fact that at every camping place that we saw or heard birds at all, the Tufted Titmouse was always one of the number and usually the most noisy one.—Beryl T. Mounts, *Macon, Ga.*

The Re-use of Nesting Material by the Migrant Shrike.—In looking over some back numbers of the Wilson Bulletin I noticed an article in the March, 1926, number by John B. Lewis telling of the re-use of nesting material by the Blue-gray Gnatcatcher and by the Ruby-throated Hummingbird, and this brought to mind a record of a somewhat similar nature that I made early in 1923.

Almost every day of the week of May 10-17, 1923, I had been finding the head and sometimes part of the body of one or more Song or Chipping Sparrows

fastened tightly on the thorns of bushes or the barbs of a barbed-wire fence. All of these birds were found within one city block, close to the south residential section of Minneapolis, and it so prejudiced me against Migrant Shrikes (*Lanius ludovicianus migrans*) which were responsible for this destruction of song birds that when I found the shrikes' nest in the same city block I removed the five eggs so that there might not be more of the destructive birds in the vicinity. This was on May 17, and when I came back the next day, intending to take home the nest, I found the shrikes busy removing it, piece by piece, to another tree about fifty yards from the first one. Whether it was intentional or not on the part of the shrikes I do not know, but, whereas the first nest was only twenty feet above the ground and quite accessible, the second nest, built from the parts of the first, was placed about forty feet above the ground in a position which rendered it quite inaccessible, at least to human enemies. Both nests were placed in Black Oak trees.—Gustav Swanson, *Minneapolis, Minn.*

Further Notes on the Singing of the Magnolia Warbler.—On my arrival at Grey Rocks, Pelham, Massachusetts, the last of June, 1927, I found a Magnolia Warbler singing in the same haunts as his predecessor two years ago (Wilson Bulletin, XXXVIII, pp. 185-199); this bird, however, sang the complete songs consistently, instead of the abbreviated forms of the 1925 bird. I discovered that the former bird's "*sing sweet*" was simply the tag end of one of the two most common songs of this species—as rendered by this bird "*wichy wichy wee-sy*," the "*sing sweet*" being nothing else than the "*wee-sy*." This is the "sprightly" song described by Thayer in Chapman's "Warblers of North America" (pp. 125-126), while "*weechy weechy weechip*" is the "duller" song.

As before, "*weechy weechy wecchip*" was primarily the perch song, proclaimed during the day from the tops of cedars and never heard earlier than 5 A. M. nor ever in the evening; "*wichy wichy wee-sy*" was always the last song at night and on eleven days was heard very early in the morning.

"*Wichy wichy wee-sy*" was sung in the very same grove and at the very same times as "*sing sweet*" had been; the 1927 bird, however, sang a little later in the evening than the 1925 warbler had done. The latest song from the latter came at 7:49 P. M. (July 12); the last songs of this year's bird were recorded at the following times: July 1, 8:00; July 2, 7:53: July 3, 7:59; July 5, 7:57; July 9, 7:53; July 11, 7:52; July 12, 8:00; July 15, 7:39.

The rate of singing of both songs was not much different from the 1925 records. Five minutes of "*weechy weechy weechip*" on July 1 at 8:40 A. M. gave 8, 9, 9, 9 and 9 songs to a minute; the usual interval between the beginnings of these songs was from 5 to 7 seconds. Records of "*wichy wichy wee-sy*" ran as follows: 9, 8, 7, 7, 6, 7, 6, 5, 6, 6, 6, 8, 9, 8—an average of 8.7 songs a minute. The most common intervals between beginnings of songs in one sample was from 7 to 8 seconds, in another from 9 to 10 seconds.

Sometimes this bird interspersed little chirps—"*tit-tit*"—between his "*wichy wichy wee-sy*" song; at other times he did not. His rate of singing with the "*tit-tits*" the evening of July 1 was 7, 5, 6, 8 and 7 songs a minute. He sang thus for twenty minutes or more, part of the time flitting about and part of the time sitting still.

As I was away from Grey Rocks from July 23 to 27, I am not positive as to the date of the last songs of the season. The last "*weechy weechy weechip*" I

heard occurred about 5 A. M. on July 21; the last "*wichy wichy wee-sy*" was noticed by a member of the family about July 25. In 1925 the last songs were heard July 23 and 29, respectively.—MARGARET MORSE NICE, *Columbus, Ohio.*

The Olive-sided Flycatcher in Oklahoma.—On September 14, 1925, my husband and I saw our first *Nuttallornis borealis* in Oklahoma. It was perched high up on the dead branches of a large solitary cottonwood, across the road from woods bordering the South Canadian River in Cleveland County. The following day I observed another one by a small pond just west of Norman. It sat on the dead tops of trees and from there sallied out in pursuit of insects. The cottony tufts were visible twice; once after it had settled down from a flight, and once when it scratched itself. Later a second bird appeared.

On May 10, 1926, a fourth Olive-sided Flycatcher was seen on the very top of a dead tree near a stream south of Norman. On May 21, another was watched at the "Sloo," high on a dead tree; it caught a small insect and also a large dragonfly which it had some difficulty in swallowing. This was the only one of the five that was observed in dense woods.

None of these flycatchers uttered any note. Although the tufts were seen in only one instance, in every case the birds were watched at leisure through eight power glasses and the diagnosis was based upon their characteristic shape, the very dark sides, and the narrow median whitish or buffy line down the breast.

Mr. R. C. Tate, of Kenton, Oklahoma, writes me that he observed three Olive-sided Flycatchers on September 16, 1925. He was within ten feet of them, and obtained a good view of the white tufts.—MARGARET MORSE NICE, *Columbus, Ohio.*

Marsh Birds in Delaware County, Ohio.—In the study of nesting birds we find that most species are confined to some particular nesting association. Since, with the development of agriculture in western Ohio, many of these associations have been destroyed, species that cannot adapt themselves to the changed conditions will be driven out. Some species are already rare or wanting. But one fortunate thing in the agricultural development is that it opens wide fields to the pioneers of other species that find ideal nesting associations in the open and drained country, such as the Meadowlark, Bobolink, Grasshopper Sparrow, Lark Sparrow, Dickcissel and some other species that make the open country their habitat. The Meadowlark (*Sturnella magna*) is probably the most abundant nesting species in western Ohio, while the most abundant winter bird in Delaware County is the Horned Lark. The resident form of Horned Lark is *O. a. praticola*, but the numbers of this bird are greatly increased by the winter visitors.

There are but few nesting associations left for the marsh birds between the Ohio River and the marshes of Lake Erie. One ideal oasis is located on the southeast corporate line of Delaware—a cat-tail marsh of three or four acres, bordered by a thicket of shrubs and vines, with water throughout the year and a depth of black ooze that is a challenge to the explorer. The Florida Gallinule, the Sora and Virginia Rails, and the Least Bittern have been nesting there for a number of years, though but few people have ever seen them. They are adepts at keeping hid when visitors are about, and if the visitors are noisy they speak in whispers, if at all. Yet for all their secretive habits they are not difficult to observe and study if some precautions are taken. The best plan we have found

is to approach their domains with caution and try to make one's self an invisible or fixed part of the landscape. Thus, all unconscious of our presence, the Florida Gallinule, and the Sora and Virginia Rails have brought their broods of chicks within six feet.

We found seventeen species nesting in and on the border of this marsh in 1923. The Red-winged Blackbird was first in numbers and the Yellow Warbler second, the latter with six nests. But one pair of Long-billed Marsh Wrens was noted that year. There were three pairs of Florida Gallinules, and they seemed to have fixed boundaries. No trespassing on their territory by the other pairs was permitted. There was much trouble between the rails. The three pairs of Sora Rails kept to the east border and the two pairs of Virginia Rails to the west border. If a Virginia Rail was found near the east border he was immediately chased back with loud vociferations that we could not understand, but were well assured by the manner of voice that they were profane. The two pairs of Least Bitterns nested in the taller cat-tails near the center of the marsh, and seemed to be on friendly terms with both the Rails and Gallinules. A pair of Coots was on the marsh up to the 28th of May. We had some suspicions that they would nest, but on our next visit to the marsh, in the latter part of August, we could not find them.

The migration record for 1923 follows: The Florida Gallinule was first noted on April 19; the Virginia Rail on April 27; the Sora Rail on April 26; the Least Bittern on May 13; and the Long-billed Marsh Wren on May 6. The Bittern and Long-billed Marsh Wren were probably on the marsh at an earlier date. I was in Tuscarawas County from April 28 to May 5, 1923.—Charles R. Wallace, *Delaware, Ohio.*

Notes on an Injured Vesper Sparrow in Captivity.—On about the first of August, 1924, while riding in an auto on some cut-over lands, I observed a bird in a very unusual action. It appeared as if it was tied to a certain place, such as is done at times with certain domestic animals when they are staked out to pasture. I thought at first that the bird might have flown against something in its effort to get away from the auto, so as soon as the auto was stopped I got out and caught the bird. It proved to be a Vesper Sparrow (*Pooecetes gramineus gramineus*).

Being interested in bird-banding, I banded it and let it go, but found that it had not gained any strength in flight. On re-examining the bird I found the cause of its being so weak in flight was that half of its right wing was missing. It could not fly over two feet. The bird was fortunate in not having been caught by some enemy, for the wing was entirely healed over. I removed the band and wrote to the Biological Survey about it. In reply, Dr. A. K. Fisher wrote that if I was not able to care for it, it had better be killed. My desire was to keep it and find out something about the bird, which I did.

The place in which the crippled Vesper Sparrow was at first kept was a common canary cage. Later in the fall a box was made, with the cage inserted in one end. Perches were put in both the box and cage, and were used very much by the bird. But for roosting at night it preferred the chaff, and deserted the perches with the exception of a few times.

One of the first things that I did, was to get the Vesper Sparrow to take insects from the hand, which it did on my first attempt. Grasshopper nymphs

were the chief insect food given to it at that time. Three of these grasshopper nymphs were a meal, and each meal was eaten on the average about ten minutes apart. It was also very fond of cabbage worms, cut-worms, and other leaf-eating caterpillars, as well as flies, but spiders were not a part of its diet. Crickets were very well liked. At different times I caught flies and put them inside its home, at times some of them being alive, and the bird had much exercise in catching them. On days when I had considerable spare time, I caught many house flies to find out how many it would eat in a day. The greatest number was 201, on July 1, 1925. This bird was a male, and at times during July, instead of eating the fly at once, it would go around with it as if it were to feed some young birds. On a few occasions I saw it with dried grasses in its bill as if it was interested in nest-building. These notes on the food consumed by the Vesper Sparrow, give an idea of the value of the species on the farm in destroying insect pests, and their meals would be much greater if they had their fredom than in a case like this.

In the place where the Vesper Sparrow was kept, sand that would go through a window screen was put in for it. This I would generally pour into the cage so as to make a pile with a peak to it. I seldom got away from pouring in the sand before the Vesper Sparrow would hop down upon the pile and begin jumping, back and forth quickly, until it had made a neat little hollow. Then it would begin dusting. The sand was put in only at one end. In the other end sod was placed and sprinkled at times with water, and often chaff from under the manger was put on this. The Vesper Sparrow did much searching when new sod would be put in.

In regard to its roosting, it would generally begin making a place in the chaff a little before sundown. This would be a small place scratched out to fit its body, and there it would almost always be until morning. Once in a while it would roost on a perch. The bird delighted in seeds of timothy and various weeds that were put in for it. Much of the time it would scratch in the chaff, searching for the seeds that were to be found in it.

A dish with water was kept in the cage, near the top, for if placed on the bottom it would soon be covered over with chaff by the bird in its search for seeds. Bathing was a chief duty of the bird nearly every day, and sometimes it would hop down upon the sand and dust, at once, after bathing.

Within a few nights after the Vesper Sparrow was captured, it sang a song altogether different from its common song in summer, and on a low tone. It was not heard singing its usual song until in February, 1925. After that it was heard every day until August 8, 1925, after which it was to be heard much less, and generally on a low tone. I did not hear it sing its usual song after that. It died about April 1, 1926, I think on account of a lack of its more natural food, which was not being given to it, because it was not easy to get and I was away for a few months before its death.

This bird had passed the stage of molting when it was captured, there being only a few feathers that were not entirely grown out. In 1925 it first began molting on July 26, when a secondary was shed. The molting season lasted until about the middle of August. The following are some notes which I kept of this Vesper Sparrow's molt: August 6, secondaries and others dropped; August 7, two tertials, some feathers from the back and underparts and seven

feathers after 4:00 P. M. August 8, from sundown yesterday to 7:00 P. M. today a total of ninety-two feathers, two being from the tail; August 9, from sundown yesterday until evening today, fifty-four feathers were shed (two being tail feathers); August 10, five of the remaining tail feathers were shed; August 11, the three remaining tail feathers shed; August 12, new feathers were appearing on the crown; August 14, new tail feathers were appearing; September 9, tail feathers all fully grown. In the counting of feathers on August 8 and 9, all were cleaned out the day before so as to get accurate results, and fortunately these were the days when the greatest number of feathers were shed.—Oscar M. Bryens, *Three Rivers, Mich.*

BIRD BANDING NEWS

Conducted by W. I. Lyon

A METHOD FOR TRAPPING AND BANDING STARLINGS

BY EDWARD S. THOMAS

In February, 1927, the writer and some friends were returning from a field trip, when, just as the sun was setting, we noticed a large flock of Starlings entering the cupolas of a barn to roost. The experience led us to consider the matter of banding some of the birds. We had read that the Starlings in the old world seem to be peculiarly fascinated by bright lights, and are very frequent victims of lighthouse lights. Would a spotlight serve as a means of capturing them in the cupolas?

A few days later, armed with some bright, focussing flashlights, we ascended to the cupolas by means of an extension ladder, and were delighted to find that we could readily capture the birds. That night we banded forty-eight Starlings. We returned to the same barn the following night and secured twenty-two more. It was significant, however, that all were new birds. There were no repeats.

A number of the more enthusiastic bird lovers of the vicinity, notably Prof. James S. Hine and Charles F. Walker, of the Ohio State Museum, R. W. Franks, Milton B. Trautman, H. W. Walker, and John Thomas, soon joined us in the fascinating work, with the result that before the flocks of Starlings had been broken up for the nesting season, we had banded 881 of them. We visited eight barns in all. Our record haul was 265 on February 26 in the barn of Mr. Claude Meeker, ten miles north of Columbus.

Various methods were tried for capturing the birds, including a device for trapping them in the cupolas, but so far, the simplest have proved the best. It was found that Starlings are badly dazed by the bright lights reflected back by the inside of the cupola. Relatively few were intelligent enough to escape through the shutters, and we believe that in most cases we captured easily by hand the greater part of the total population of the barn.

The approved method is to raise an extension ladder, as quietly as possible up to the cupola. Two men then ascend the ladder, the first with a flashlight, the second with a sack for carrying the birds. The first man makes most of the captures and hands them down to the second, who puts the birds in a bag. When he has a sufficient number of Starlings, the bag is lowered to the banders below and a new bag is passed up to him. Grain sacks proved to be the most satis-

factory for bags. We were astonished to find that the Starlings will force their bills through any kind of cloth, in their efforts to escape, and they quickly riddle a bag made of light material. I have never heard of any other bird which will do this.

Six or seven men seem to be the ideal number for the best results: two to ascend the ladder, one to handle the sacks below one to take the birds from the sack and hold them while the band is being affixed, one man to place the bands, and one to put the banded birds in a sack. More than this number of co-operators are desirable if they are well organized; otherwise they are in the road.

Needless to say, it is important that the bands be already arranged numerically, and opened, ready to be affixed. By means of careful preparation and close co-ordination of the workers, we were able on April 12 to capture and band 128 Starlings in the record time of forty minutes.

We found it advisable to place the birds temporarily in sacks after they were banded; otherwise, they would flutter about the barn and into the cupolas and handicap the workers. We found, however, that too many birds should not be placed in one sack. They tend to crowd into a compact mass and are easily smothered. On one occasion we placed the banded birds in some metal brooder houses which happened to be in the barn. Before we realized what was happening, we found that the birds had crowded into a corner of each of the houses, and a number of them were already dead.

It has been our experience that after a barn is raided, the birds promptly desert it and do not return. Although we secured nine repeats, none were in the same barn in which they were banded. The small number of repeats out of 881 banded birds may indicate that most of the birds leave the neighborhood entirely after being banded.

We believe that the banding of the Starling may result in some interesting and important results. The country is witnessing the rapid spread of a new species over a large territory, a thing which has happened but once before in our history. It would be of great value, it seems to us, if we could secure an insight into their method of dispersal. Are the pioneers composed of the young birds? Do the adults remain stationary? Or do the adults also join in the migratory extension of the species?

Do the wintering birds nest in this vicinity? How extensive are their migratory habits? Are their migratory movements regular, like those of our native birds? These and a dozen other questions may be answered by means of banding.

In addition, it is altogether possible that in the near future it may be necessary to attempt to control the numbers of the Starlings. A knowledge of their movements is one of the first steps in the study of their control.

To secure results, a large number of co-operators throughout the country is necessary. The banding in winter should be supplemented by trapping at the nest—something which we had planned for last summer, but which, because of press of other matters, we were compelled to omit.

In closing, I might state that early this fall we tried the same method on mixed flocks of Starlings, Grackles, and Robins, which were roosting in the shade trees in the city of Columbus. For some reason, however, the attempt was a complete failure, the birds flying away before we could climb within reach.

Columbus, Ohio.

MUNUSKONG STATE PARK

BY DR. K. CHRISTOFFERSON

The Munuskong State Park in Michigan was formerly a private club of eight members: namely, James R. Hayes, Oliver Nelson Gardner, Fred Postal, George Stroh, George Osius, John Dodge, Horace Dodge, and A. A. Schantz. All of these men have now passed away, excepting Mr. Osius and Mr. Schantz. Mr. Osius, representing the heirs of the former owners, sold the property to the Dodge Bros., Inc., who, in turn, deeded it to the State of Michigan without cost, and as a memorial to John and Horace Dodge.

Because of the care and protection of the trees and game on this club property during the past twenty-five years the State of Michigan is now in possession of a wonderful wild life sanctuary. It is a place where the people may camp, or where a cottage may be rented for a limited time. Trails are being opened, affording a wonderful opportunity for the study of birds and wild game. There are also many kinds of wild flowers for those who are botanically inclined.

The Park includes about 2433 acres bordering the innermost part of Munuskong Bay, and including a part of the St. Mary's River, in Chippewa County. It has about five miles of shore-line on the bay, much of which is provided with areas of tall rushes, affording good shelter for ducks and geese. In fact, it has been the Mecca for sportsmen for the last fifty years, and the home of the Redman from time immemorial.

The Big and Little Munuskong Rivers run through it also, adding to its picturesqueness. The land is well wooded with such trees as the canoe birch, balm of gilead, white and black spruces, quaking aspen, balsam fir, arbor vitae, basswood, yellow birch, hard maple, white and black oaks, alders, willows, choke and pin cherries, june berries, mountain ash, with a few red oaks and mossy-cup burr oaks. Besides these there are a few white pines, which remain here as a relic of Michigan's former glory. None of these trees have been disturbed for the last forty years.

The State Department of Conservation has set aside about 600 acres of the marsh area as a wild fowl refuge. Corn is being fed daily, wild rice, wild celery, and other duck foods will be planted. On the land and wooded areas no hunting or trapping is permitted at any time. In this connection I might say that the sportsmen, recognizing the future benefit from such restrictions, are lending their support and encouragement; very little violation is taking place.

Deer are here in large numbers and may be seen frequently. Bear, moose, foxes, coyotes, bobcats, woodchucks, skunks, beaver, mink, weasels, porcupines, red and flying squirrels, and rabbits are among the mammals which inhabit the park area. This park is one of the few areas where the Ruffed Grouse is left. A July census revealed sixty of these birds; but I know that a Great Horned Owl later got one of them, and four have since been shot, while two are in captivity. Jacksnipes breed, and may be put up throughout the summer. The Black Duck finds it a splendid breeding area, and I am not sure about other ducks. A pair of Wood Ducks were seen on July 14, 15, August 18, and September 10 of this year. A lone Pintail was reported on August 18.

The most common small bird is the Oven-bird, and it is easy to check as many as sixty on a short walk. Song Sparrows and Yellow-bellied Sapsuckers are next in abundance. We have seen and heard a few Evening Grosbeaks in

July, August, and October. The first Pine Grosbeak called this morning, and two Canada Jays were seen in the early part of the week. These were the first Canada Jays I have seen in four years. The Canada Jays and the Ravens are very scarce because of the poisoned bait set out by the trappers. This practice should be stopped, as the Ruffed Grouse, Evening Grosbeaks, Bluejays, chickadees, nuthatches, and woodpeckers are also known to eat animal matter. Snow Buntings, Lapland Longspurs, Horned Larks, and Titlarks are now down from the north, and no doubt the Pine Siskins and Redpolls are also.

During the past season, beginning May 17, we have carried on trapping and banding work. To date our total is 278, of thirty-five species. The largest number of one species was 168 Song Sparrows. I anticipate a wonderful season next year, for we will be prepared to operate throughout the migration period.

PICKFORD, MICHIGAN.

MARAUDING CROWS AND MAGPIES.—I regret to report that the rookery of Black-crowned Night Herons, at this point, was destroyed by Crows this season. This rookery is situated in a bluff of small aspen and willows bordering a running creek and was first observed by me in 1922 when it contained fourteen nests.

On June 11, this season, I visited the rookery for banding, but, on account of the very late spring, I found only sixteen birds large enough, although 129 nests contained small young and hatching eggs. On returning June 20, I found the nests deserted and the partly eaten young, and broken eggs, scattered on the ground and the Crows in multitudes. I returned the following day with a .22 rifle equipped with a silencer and succeeded in killing sixty-three of the black pirates, which was a little satisfaction at least. The old herons had moved about a mile up the creek and, apparently, established themselves in a large bog and, I think by their actions had rebuilt on the ground, although I am not certain of this as it was impossible to reach the part of the marsh they were in. Crows also destroyed a large colony of Common Terns that had established themselves on an island. On June 20 there were a great many nests containing eggs but, on returning on June 28, I found Crows in possession and only a very few eggs and young.

As usual Robins were quite numerous here this year, but Bronzed Grackles and Mourning Doves were scarce, especially doves which are decreasing year by year at this point.

Black-billed Cuckoos appeared here in 1924 following an infestation of American tent caterpillars, but this season the caterpillars had passed on, also the cuckoos.

Crows and Magpies are a great menace to the bird life at this point, and, while we wage a continual warfare against them, they are increasing year by year: and, unless we can devise some way of depleting their numbers, our grouse will be practically exterminated in a short time. Ducks appear to fare a little better than the grouse but the proportion of nests destroyed is about five to one not molested.—GEORGE LANG, *Indian Head, Saskatchewan.*

MOURNING DOVE FACTS.—A Mourning Dove's nest was discovered on March 31, 1927, with two eggs at that early date. The brooding period seemed to be exceedingly long, but the two young birds finally survived all dangers, and were banded on April 26, 1927. This is by forty to fifty days the earliest nest of the species that I have ever recorded here.

Another interesting record is, I banded a nestling Mourning Dove at an early date, so early that I knew the bird was too young to fly off the nest, although its leg was large enough to hold the band. Three days later I passed and did not see the nestling. Search revealed it on the ground, still warm, but half devoured by a large tortoise. Examination of the tortoise revealed that it was one upon which I had carved my name a few days more than ten years before.—Johnson A. Neff, *Marionville, Missouri.*

Harris's Sparrow.—I seem to be specializing in Harris's Sparrows, banding forty-four last fall, seventy-five in the spring and 165 this fall. They are self-assertive and I think inclined to monopolize the traps keeping away the smaller species.—O. A. Stevens, *Fargo, N. D.*

Trapping Experiences with Rose-breasted Grosbeaks.—During the first summer in which I occupied my house in Lake Forest, in 1915, several birds flew in through the open door of a glass-inclosed side porch. I was always successful in rescuing them, apparently unharmed, though occasionally they were stunned for several minutes. Having read of the banding of birds, I secured some bands from The American Bird Banding Association in 1917; and on May 24, 1919, I banded a male Rose-breasted Grosbeak (No. 49510) which had flown into the porch. He was again taken in the porch on May 2, 1920, at which time I photographed him in my son's hands. A banded male grosbeak was seen in the yard many times during the summers of 1921 and 1922, and I felt quite certain it was No. 49510. On May 4, 1923, I caught him in a sparrow trap. The summers of 1924 and 1925 were like those of 1921 and 1922, but I did not take him in those summers and could prove nothing. After a few years of using a sparrow trap I added a home-made drop trap which could be pulled by a string from my window. In three weeks I banded thirteen males and eight females, all of which were re-taken frequently during the summer in either the same trap or the nearby sparrow trap; and one male was re-taken in 1924. In the latter year six were banded, all of whom were frequent repeats; and while conditions changed in no way, I did not trap another grosbeak until May, 1927. I am not only at a loss to understand their absence in the last few years, but I also cannot account for their abundance in 1923. At that time I had caught as many as twelve at one pull of the trap.

That I was unable to trap any birds between 1924 and 1927 does not mean that they left the neighborhood; for they still fed (much to her disgust) on the gooseberries of my neighbor across the street, were frequently at another neighbor's food shelf a block away, and were frequently seen in my yard, where each year I found at least one nest. The probable reason for their absence was the cleaning up of my next-door neighbors' property in such a way as to rob them of much of the desired shrubbery and bushes to which they could flee.—George Roberts, *Lake Forest, Illinois.*

Some Banding Results in Minnesota.—My trapping station is situated on a rear lot about fifty feet square, in the center of a residence district in southeast Minneapolis. I am about a half mile from the Mississippi River, the streets are well planted with trees, but there are no trees on my lot. The lot is well planted, especially around the borders, with shrubbery.

I have a bird bath on the ground into which water is kept trickling at all times during the summer months. This is the great attractive feature for birds.

I maintain a feeding station, keeping seeds on the ground about the traps, also raisins, peanuts, and bread crumbs most of the time. I have a weather-vane food shelter stocked with food at all times. Suet is kept out during the colder months.

Before establishing the bird bath and feeding station about the only birds ever seen on the lot were Robins and English Sparrows. Now I have a great variety of bird-visitors, some remaining all summer, others stopping off for several days during the migrating season.

I have an "Ever-set" trap to keep down the number of English Sparrows and it serves the purpose wonderfully well. In this trap I have taken perhaps half a dozen other birds during the season. All others banded have been taken in a drop trap of hardware cloth about 24x30 inches suspended by the middle so that all sides are open. This is operated by a pull-string. The trap is kept well baited at all times so that it requires but little time morning, noon, or night when I arrive, to capture the birds that have been feeding there for several hours unmolested.

During the four years since I started banding I have banded about 625 birds. During the present year (1927) I have banded to date 177 birds, as follows:

Blue Jay 5, White-throated Sparrow 85, Chipping Sparrow 5, Slate-colored Junco 46, Song Sparrow 1, Lincoln's Sparrow 2, Swamp Sparrow 1, Fox Sparrow 1, Towhee 1, Catbird 1, Brown Thrasher 4, House Wren 4, White-breasted Nuthatch 2, Willow Thrush 1, Gray-checked Thrush 1, and Robin 17.

I have had fifteen returns this year, which is a goodly number when we consider that I have been banding only about 150 birds each year. The returns are as follows:

April 18. Robin 374320; banded May 27, 1925.
April 21. Chipping Sparrow 48474; banded May 9, 1926.
April 24. Robin 267187; banded May 8, 1925.
April 29. Robin 267181; banded April 29, 1925.
April 30. Robin 246225; banded April 13, 1926.
May 3. Robin 246224; banded April 12, 1926.
May 4. Robin 246227; banded April 29, 1926.
May 7. Chipping Sparrow A 48921; banded May 10, 1926.
May 7. Robin 246228; banded May 7, 1926.
May 11. Chipping Sparrow 86638; banded Sept. 15, 1924.
May 17. Chipping Sparrow 79728; banded May 8, 1925.
May 17. Robin 267190; banded May 17, 1925.
May 27. Robin 267182; banded April 29, 1925.
Oct. 2. Robin 374317; banded June 21 1925.
Oct. 9. Blue Jay 261099; banded January 5, 1924.

Blue Jay 261099 is one of the interesting returns. Banded on January 5, 1924, he returned May 18, 1924, October 24, 1924, September 23, 1925, June 15, 1926, and October 9, 1927. It would seem quite evident that he remains here the entire year.—N. L. Huff, *Minneapolis Minnesota.*

How Did the Bird Find Its Way Back?—A pair of Phoebes, nesting on the cross bracing of the ceiling of the garage, just over the entrance where the cars passed in and out every few minutes, hatched a Cowbird. This youngster quickly tired of the insect diet given by his foster parents, and shortly after leaving his nest, began feeding on the seeds in the traps, becoming finally a nuisance, since he entered them several times daily.

After several days of this we took him "for a ride," well covered to prevent him from seeing the surroundings, and liberated him about a mile from home. But the next morning we found him again feeding contentedly in one of the traps. We again took him for another ride of two miles, with the same result. Only after taking him out in the country for several miles, and liberating him near a flock of his own kind, did we succeed in getting rid of him. How did this recently born bird, reared by alien parents, never before off the home lot, find his way back home so quickly, all by himself, and with no guides?—Edward A. Everett, *Waseca, Minnesota.*

ANNOUNCEMENTS

THE NASHVILLE MEETING

The fourteenth annual meeting of the Wilson Ornithological Club will be held at Nashville, Tennessee, on December 30-31, in conjunction with the meetings of the American Association for the Advancement of Science which will be in session throughout the same week. This will be the seventh meeting to be held with the American Association. The following announcements will give most of the information which may be desired by those who may be planning to attend. A meeting has just been held at Cleveland, Ohio, which was arranged during the interval between this one and the last issue of the Bulletin. We expect to present complete accounts of both meetings in the next issue.

FROM THE NASHVILLE LOCAL COMMITTEE

The coming meeting of the Wilson Ornithological Club at Nashville Tennessee, is being looked forward to with keen anticipation. The dates decided upon are December 30-31, with a field day on January 1. The American Association will hold its annual convocation at Nashville during the seven days following Christmas, and its programs, together with those of the thirty or more associated scientific organizations, provide a feast of entertainment and culture not otherwise to be had. The foremost scientific men of the country will be present at these meetings, many of them to participate in the programs. It will be a rare opportunity to meet old friends and make new ones. These features, with th reduced railroad rates, should encourage every member of the Wilson Club to plan to attend the Nashville meeting.

The Tennessee Ornithological Society is again to be our host. Although the interval since the last Nashville meeting has not been great, the T. O S. is pledged to outdo is previous efforts, and is confidently expecting that the W. O. C. members will do their part by lending their attendance. The program, tentatively, is as follows: On Friday, the 30th, the morning session will be divided between business and the reading of papers. The Friday afternoon and Saturday morning sessions will be devoted to papers, and the Saturday afternoon program will be followed by a short business session to conclude all business. On Friday evening the annual dinner will be served at the Hotel Hermitage, and the local Committee has prepared a spicy program for this occasion. Early Saturday morning a before-breakfast-trip, for those who wish, will be made to beautiful Radnor Lake, a thirty-five acre gem set among the knobs high above Nashville. Here several hundred ducks spend the winter along with other water birds.

On Saturday evening an informal reception in honor of the visitors will be held at the home of Mr. A. F. Ganier, where all "bird cranks" will have free reign to release their pent-up enthusiasm on sympathetic ears. Mr. Ganier's collections in various branches of natural history, along with those of other local members, will be on display. Among these will be shown the nests and eggs of all species of American warblers—part of the collection of Dr. H. S. Vaughn.

On Sunday a field day is scheduled, with headquarters at "Idle-wild-wood," the bird reservation on the Stones River where members Vaughn, Mayfield, and Ganier have their summer homes. Here the high wooded cliffs above Stones River and the low valley lands nearby should yield a field list of upwards of fifty species of birds. After the tramp dinner will be served under the trees, where barbecued pig, fricasseed rabbit, and other local delicacies will be dispensed. Ample motor transportation will be supplied by the Local Committee.

Nashville, a city of 175,000, is one of the greatest educational centers in the country, and on the five college campuses which join each other, are splendid facilities for taking care of the meetings. Information concerning railroad rates, hotel accommodations, etc., has already been sent to the members. You are urged to observe carefully the instructions given elsewhere concerning the railroad certificate to be secured when buying your one-way ticket to Nashville. Requests for additional information or offers for the program may be addressed to Mr. A. F. Ganier, 2507 Ashwood Ave., Nashville. The program will go to press on December 26.

RAILROAD TICKETS

The attendance at the general meetings at Nashville will be large enough to insure the one-and-a-half fare for the round trip. When purchasing your ticket to Nashville you will pay full fare for a one-way ticket, but you must ask for a Certificate of the Western Passenger Association, which will be furnished and filled by your ticket agent at your request. You must purchase early enough to allow time for making out this certificate. The American Association for the Advancement of Science and its associated societies are entitled to this rate, but to avoid any uncertainty it may be best to name the American Association as the meeeting attended. When you reach Nashville you must deposit this certificate with the Secretary of the American Association for validation. When ready to return you reclaim your validated certificate, which entitles you to purchase the return ticket for one-half the regular fare.

ROOM ACCOMMODATIONS FOR LADIES AT NASHVILLE

The following item is clipped from *Science*, for November 11, and will be of interest to many of our members:

"Women planning to attend the meetings of the American Association for the Advancement of Science will be interested in knowing that lodging can be obtained at the dormitory of the Peabody College for $2.00 per day. The Peabody and Vanderbilt Universities will be used for the meetings and there are eating places near at hand. Application should be made to W. N. Porter, convention secretary, Chamber of Commerce, Nashville, Tenn."

Rooms in the dormitory will be much more convenient to the meetings than will the down-town hotels. It might be well to engage the rooms a week or two in advance of the meetings if you are certain of going.

MID-WINTER BIRD LIFE AT NASHVILLE

The mid-winter bird list at Nashville numbers between fifty and sixty. The Bluebird, Cardinal, Flicker, Junco, Mockingbird, Field Sparrow, White-throated Sparrow, Towhee, Downy Woodpecker, and Carolina Wren are rated as abundant. The Bobwhite, Carolina Chickadee, Crow, Mourning Dove, Goldfinch, Golden-crowned Kinglet, Meadow-lark, Robin, Yellow-bellied Sapsucker, Savannah Sparrow, Tufted Titmouse, Myrtle Warbler, Hairy Woodpecker, Red-bellied Woodpecker, and Bewick's Wren are rated as common The Brown Creeper, Lesser Scaup Duck, Purple Finch, Sparrow Hawk, Cooper's Hawk, Red-tailed Hawk, Bluejay, Killdeer, Prairie Horned Lark, White-breasted Nuthatch, Screech Owl, Fox Sparrow, Swamp Sparrow, White-crowned Sparrow, Hermit Thrush, Pileated Woodpecker, Winter Wren, Turkey Vulture, and Black Vulture are rated as fairly common in mid-winter in the Nashville region. Pick out the birds you would like to see on the field trip at the Nashville meeting and tell the Local Committee.

COMMUNICATIONS

Editor, Wilson Bulletin: I have read with much interest your review of Mr. A. C. Bent's "Life Histories of North American Marsh Birds," published in the Wilson Bulletin for September, 1927, pages 187 and 188. Since your principal criticism deals directly with that part of this work for which I am responsible and because it is believed that you have not understood the system followed I feel that this letter of explanation is warranted to clear up any similar misunderstanding that may exist among other readers of the Bulletin.

The truth of your statement that we need detailed work on the distribution and migration of North American birds is fully appreciated but as this is a subject that if treated in proper detail would occupy a great amount of space it could not be included in a general work of the character of Mr. Bent's life histories. It is regretted that no technical bulletin on this subject has been issued from the Biological Survey since about 1916. You will be interested to know, however, that I now have in course of preparation, two manuscripts on this subject.

In the life history bulletin, however, it was impossible to give the great mass of detailed information that is available concerning the distribution and migration of our native birds but if you will compare the last volume with those preceding it you will find that this phase of the subject has been treated more fully than ever before. Even so I found that it was impossible to give more than a general sketch showing the general breeding range, winter range, and the outstanding features of the spring and fall migrations. In working out the breeding range the method employed was to start at the northwest corner working across to the eastward, thence down the east to the southeast corner, across to the southwest corner, and back to the starting point. The theoretical perfect range is thus worked out in a quadrangle. The same system was followed with regard to winter ranges. Obviously, if a bird is known to breed between certain north and south limits it may be safely considered to breed at all intermediate areas where the conditions are suitable.

To take the example that you use of the coot, by reference to our distribution maps it is noted that this bird is known to breed in no less than 34 different

states in addition to seven provinces of Canada. It must, however, be obvious that if this bird breeds north to British Columbia, Mackenzie, Saskatchewan, and Manitoba, and south to Central America, it is likely to breed in any intermediate region where a suitable habitat is found.

In giving the migration records of birds, lack of space demands that they be kept down as much as possible, so it is my usual custom to select not more than three or four typical records for each state for each migratory season. Even then it is difficult to keep the migration portion down to a reasonable size. For example you will find that this portion of the distribution section of the coot occupies two and one-half pages of solid print.

The introduction of maps as you suggest would, of course, add interest but would also increase the expense of publication which is a factor that must be considered and it also is my personal opinion that they would be more or less out of place in a series of bulletins such as has been undertaken by Mr. Bent. It seems more natural to look for them in the technical bulletins of the Biological Survey that deal specifically with distribution and migration problems. Those now in progress will be fully illustrated in this respect.

I appreciate that your criticism has been given in a friendly spirit and my only desire in replying is to clarify the situation that exists with reference to this series and to explain the system employed in working out these portions of the publication.

Very truly yours,

Frederick C. Lincoln,
U. S. Biological Survey.

Washington, D. C., Oetober 29, 1927.

[Editor's Comment. We concur in all of the opinions expressed in Mr. Lincoln's letter, believing this to be consistent with our previous review. The only opinion we wish still to insist upon is that a more elaborate statement of distribution is needed; Mr. Lincoln also concurs in this, and, furthermore, assures us that such reports are in preparation and will be illustrated. Nothing more needs to be said, perhaps, except for the Editor to offer his apology for bringing the matter up.]

Editor, Wilson Bulletin: The autobiography of Mr. Otto Widmann in the last issue of the Wilson Bulletin is of great interest to his host of admirers. As one of the many who have been favored with his advice and suggestions, I should like to mention a very remarkable characteristic of this eminent authority, and that is, his wonderful handwriting. I am sure very few people indeed, at any age, can pen the beautiful letters so skillfully written by Mr. Widmann. Those who are so fortunate as to have letters from him in their possession, will preserve them, not only for the knowledge such letters always impart, but also as perfect specimens of the art of handwriting, now perhaps decadent.

Yours truly,

Thos. H. Whitney.

Atlantic, Iowa, November 7, 1927.

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